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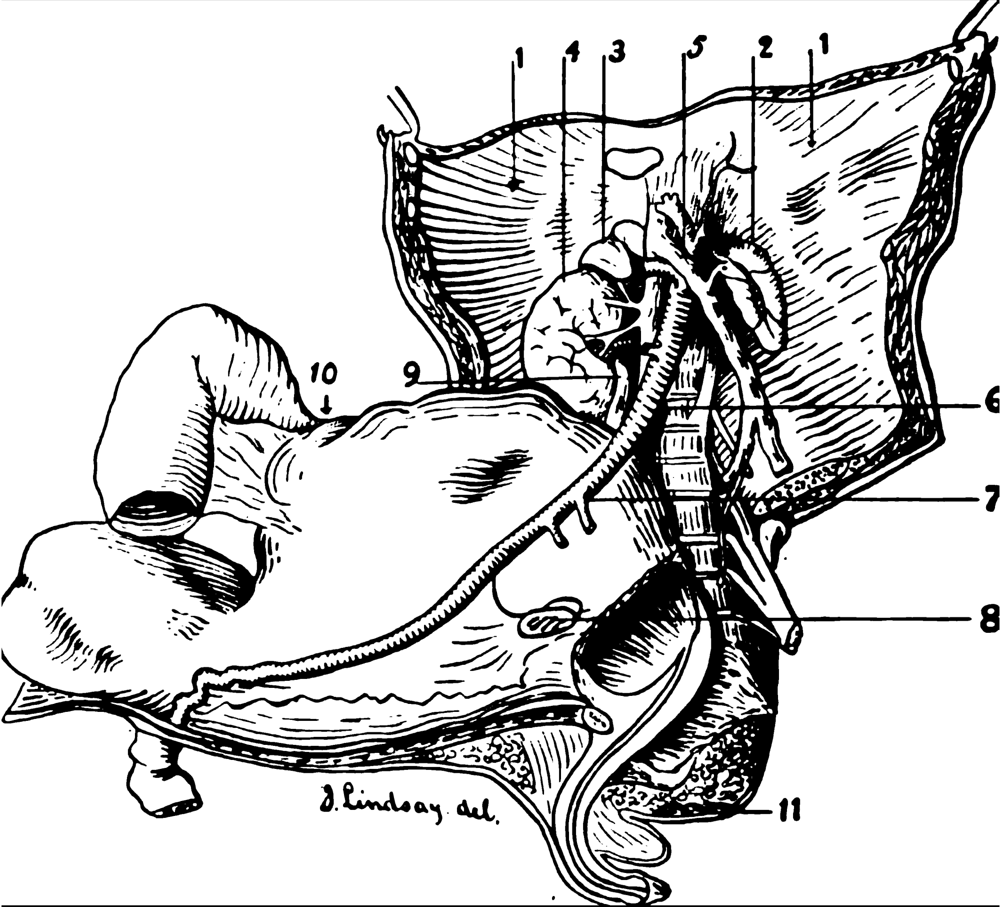

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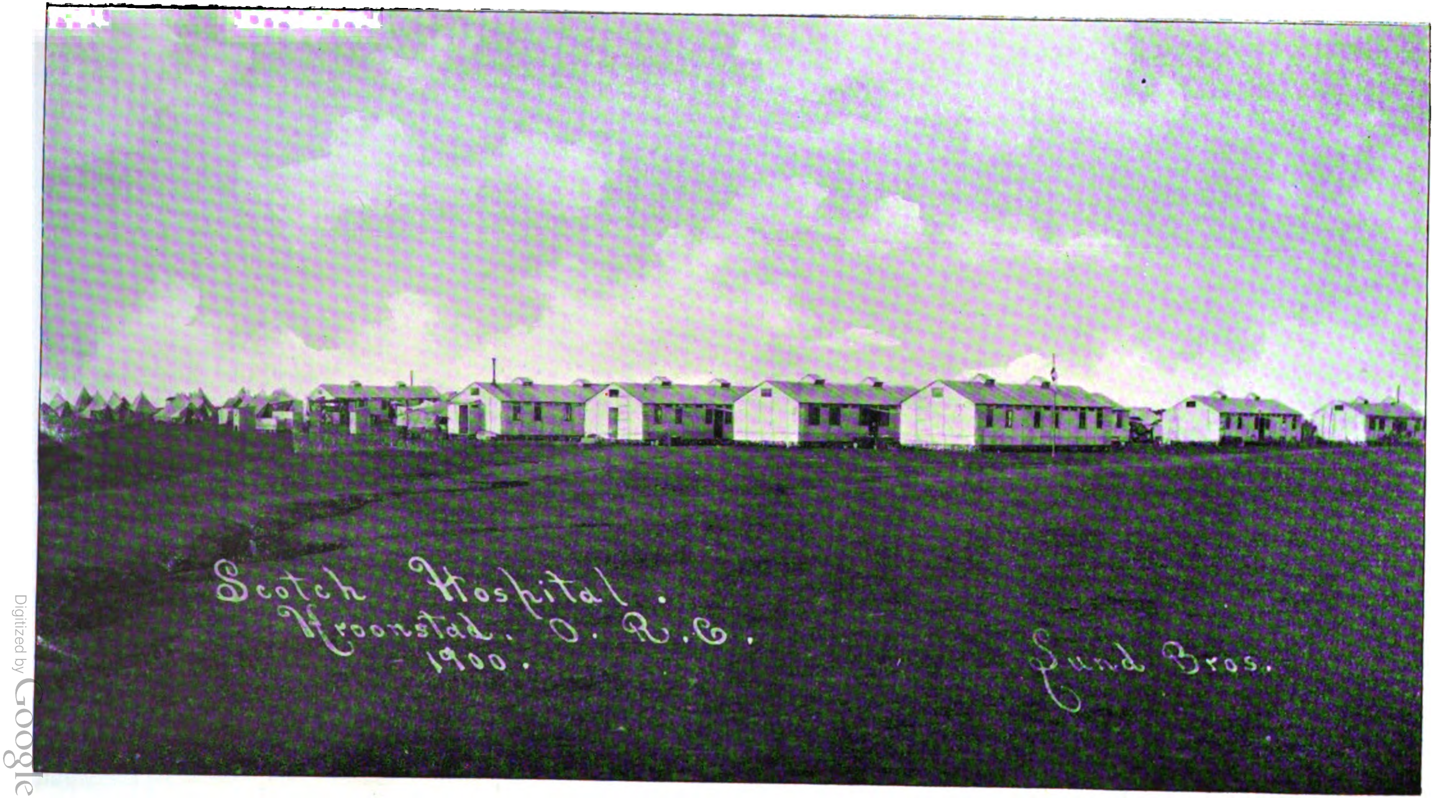
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ORIGINAL ARTICLES.

MY EXPERIENCES IN SOUTH AFRICA.[1]

By HENRY E. CLARK,

Professor of Surgery, St. Mungo's College, Glasgow; President of the Glasgow Medico-Chirurgical Society; Surgeon in Charge of the Scottish National Red Cross Hospital, Kroonstad, Orange River Colony.

When the history of the great Boer War comes to be written in earnest—the mass of material relating to it duly sifted, and the grains of corn separated from the bushels of chaff—one fact will, I think, stand out as the most prominent and characteristic feature, namely, the assistance rendered to all departments of both armies by volunteers of all gradations of experience and knowledge.

Never before in the history of our own country has a war been waged in a foreign land, wherein the civilian and pseudo-military elements have had so prominent a place. If this is true of the combatant forces, it is even more so of the medical branch, for the number of volunteer ambulances, field hospitals, and base hospitals sent out has exceeded every previous experience in the world's history. On the Boer side there appears (as far as I can ascertain) to have been very little organisation of hospitals attempted, or even thought of, before the outbreak of the war, and the Boers were in large measure dependent on the aid of the several ambulances sent out by the continental nations. It is one of the numerous things that our kind neighbours will, I fear, not put to our credit, that we were able to do without such extraneous aid, but we may fairly claim that, however tardy we were in rising to the occasion, the plethora of hospitals, doctors, and nurses lately in South Africa shows that we were not lacking in material. In such volunteer aid—both military and medical—Scotland has played her part nobly and characteristically. I leave the description of the eager rush of combatant officers and men to abler pens; my duty is limited to recording what has been done by the Scottish nation for the treatment of the sick and wounded in the war.

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[1] Read before a meeting of the Glasgow Medico-Chirurgical Society held on 30th November, 1900.

First, let me point out that the necessary funds, instead of being found by a few wealthy individuals, as was the case with several hospitals sent out from England and Ireland, were raised by numerous contributions of moderate amount collected over the whole length and breadth of the land, so that the movement was in the truest sense national. Shillings were not despised where guineas could not be obtained, and donations of £50 or £100 were as gratefully received. It is much to be regretted that some of our friends in the east were not content to work with the Glasgow Committee, but must run "a boat of their own." But for this split Scotland might have sent out a fully-equipped hospital of 520 beds at the end of March, which would have reached South Africa in time to have been of service when the need was greatest. I can, however, bear testimony to the superexcellent equipment of the Edinburgh Hospital, and to the admirable work it accomplished, as well as to the friendly relations which subsisted between the staff of the two hospitals which represented Scotland. As to our own hospital (the Scottish National Red Cross Hospital), it was organised and equipped on the lines of a first-class civilian hospital at home, and the fact that the equipment was mainly in the hands of Dr. Mackintosh, the Superintendent of the Western Infirmary, is a guarantee of the highest efficiency and economy. I cannot speak too highly of Dr. Mackintosh's energy, ability and self-devotion. During the many weeks the hospital was in course of preparation he scarcely knew what rest was, and I claim for him a very large share of the credit of its success. Mistakes were made, of course, for in so large and novel an undertaking they were inevitable.

It would be ungracious to dwell on the omissions in the equipment, for most of them were due to losses in transport, but you will understand that we were seriously disturbed to find that we had arrived at our destination without an inch of sticking-plaster, with only twelve morphia suppositories, and with a stock of drugs so seriously inadequate that we could not write a prescription without first ascertaining from the dispenser what he could allow us to put in it. The selection of tortoise tents as the main provision for the treatment of patients was a wise one, and I can speak in very high terms of the satisfaction we had in their use. As compared with the usual hospital marquee, the tortoise tent was lighter, more easily erected, took less space, was cumbered with fewer tent ropes and pegs, and gave accommodation to ten patients instead of eight. Further, in consequence of their not being so high as the marquees, these tents were not so much damaged by high winds, and on two occasions, when the sand-storms prevailed, the marquees of No. 3 General Hospital were seriously interfered with, while our own camp escaped with very little damage, although we were in a more exposed situation. For some time we were sorry that any Döcker huts had been sent out, for the first five were much damaged before they reached us, and the other five lay for nearly a month at Bloemfontein before we could prevail on the authorities to send them up. We got, however, to like them very much, for in them we obtained better protection from the sun in the day, the cold at night, and from sand and rain-storms when they occurred, than in the tents. Friends, who had been resident in South Africa for some years, expressed a doubt as to whether they would stand the tornados and heavy thunder-storms of the summer months, and I am sorry to say that since I left Kroonstad that opinion has so far been justified by one of the huts becoming completely wrecked by a tornado. About seventy stoves were sent out to heat the tents and huts, and of these we used three only, for the cold was only trying for a few hours in the night in the depth of winter, at a time, therefore, when the patients and most of the staff were in bed. Our staff of doctors and nurses was at all times far in excess of our requirements, and we were thus able to assist in the work of other hospitals than our own.

Leaving Glasgow on 20th April, we sailed from Southampton by "intermediate steamer," *Pembroke Castle*, and reached Table Bay on 12th May. This was the very day that Lord Roberts entered Kroonstad, and this circumstance settled our destination, for, following his custom, he collected the sick and wounded, and made such temporary provision for their treatment as was possible, and on the 14th telegraphed to the base for hospitals, doctors, and nurses to be sent up without delay. On the 15th, on my return, late in the afternoon, from a visit to the hospitals at Wynberg, I found it had been arranged that I should start by mail train that same evening for Kroonstad, taking with me five of the doctors and the seven nurses; and that six student-orderlies should follow next day. Colonel Cayley, one doctor, and the rest of the orderlies were to continue their journey by the *Pembroke Castle* to Port Elizabeth, with the equipment, and from that port travel direct to our destination. After a tedious, but not otherwise uncomfortable journey, we arrived at Bloemfontein and found we could get no farther. The line north of that town was still in a state more or less chaotic, and what was more serious, the Chief of Staff had given special instructions that transport was only to be arranged in the following order:—(1) Soldiers, (2) ammunition, (3) food, (4) siege train, (5) hospitals and medical stores. It was only with the utmost difficulty that Surgeon-General Wilson (the P.M.O. for South Africa), who was at Bloemfontein, was able to get us sent on five days after our arrival—he himself, the Red Cross Commissioner (Lieut.-Colonel Ryerson), and two civilian surgeons (one of whom was the son of our old friend, Sir W. T. Gairdner) travelling with us. Our own nurses were left at Bloemfontein, but we took up ten nursing sisters belonging to No. 3 General Hospital, and also our six student-orderlies.

During our stay at Bloemfontein we visited the chief hospitals, and made ourselves acquainted with their working and the nature of the cases under treatment. We found that there were a large number of hospitals, for, in addition to No. 8 General and No. 9 General, there was No. 10 located in the upper and lower "Dames School" and Gray's College, No. 5 Stationary in the Raadzaal, the "Langman," the "Portland," the "Irish," the "Yeomanry Field Hospital," and, I think, one or two more. All of these were more or less overcrowded, and the cases were overwhelmingly cases of enteric fever. No. 9 (to give an example), originally intended for 520 beds, had 1,700 patients, not much over 100 of these being surgical. It was stated that there were more than 4,000 cases of sickness in and around Bloemfontein, but I cannot vouch for the accuracy of the figures. In one of the hospitals we saw two marquees (each used, as a rule, for eight beds), containing twenty patients each, lying on the ground, without mattresses, wrapped in their ordinary army blankets. These were, I gathered, "observation cases," and included some mild cases of dysentery, but whether there were any enterics among them I cannot say. At the same hospital I saw, outside enteric wards, the bedpans and urinals used by the patients not very well cleaned, and lying close to the door of the tent; and, beside them, rolled up, the dirty bedclothing, &c., removed, which had not been put direct into antiseptic fluid as it should have been. We found that many orderlies and nurses were laid up with enteric—the orderlies belonging to the Glasgow Medical Staff Corps at No. 10 General Hospital having been especially unfortunate in the amount of sickness among them. The whole of Bloemfontein was reeking with enteric, and I confess to having had no little apprehension as to the risk run by my colleagues and myself while we stayed in the capital of the Orange Free State, especially our student-orderlies, who lived at one of the hospitals, and our nurses, who worked assiduously among the enteric fever patients. We reached Kroonstad on 25th May, three days after Lord Roberts had left that town, so that we were fairly well to the front, in spite of my protest before we left Scotland that we were going "to the rear." The state of matters we found at Kroonstad was necessarily much worse than what we found at Bloemfontein, for the condition of transport had rendered it impossible for any but field hospitals to get up, and these had, of course, to go on with the advancing troops. The staff of half a field hospital had been left behind, consisting of Major Ford, Major Macdonald, Captain Probyn, Civil-Surgeon Pears, and a small number of orderlies, most of them belonging to the Cape Bearer Company (a Volunteer organisation). The number of patients, Major Ford told me, was about 700, and these were lodged in buildings used temporarily as hospitals and in some military bell-tents. The first place we visited was the Grand Hotel, situated near the station, which Lord Roberts had taken possession of and converted into an hospital. There, we looked in at the billiard-room window, and saw patients lying as thick as they could lie on the billiard-table, on the settees, and on the floor, clad in their khaki uniforms, lying in their army blankets, with a very insufficient supply of pillows, no sheets, and few medicines or medical comforts. It is only fair to state that the Surgeon-General at once ordered the evacuation of the billiard-room, and the patients were removed that very morning to the Dutch Church, room being made for them by as many patients as could travel being sent to Bloemfontein by the carriages and trucks we had journeyed in from that town. From the "Grand" we went to the Dutch Church, the most prominent building in Kroonstad, situated in a large plot of ground in the centre of the main street. All the seats had been cleared out of the building—only the organ and pulpit remained to remind us of its proper use. There we saw a sight I shall never forget, for about 150 patients lay on the floor in their own clothes, mostly suffering from enteric fever, but with a good sprinkling of cases of dysentery. There was an undue proportion of severe cases, and we noted in many instances indications that the "angel of death" was not far off. All that could be done had been effected by the two medical men and the mere handful of orderlies, but there were (till we arrived) no nurses, milk was not easy to obtain, and both medicines and medical comforts were lamentably insufficient. In the large tree-planted space around the Church were a number of bell-tents, which served for less severe cases and for the orderlies. Near by was the Stadthuis or Town Hall, a small building, crowded with patients, many of whom lay on the stage and had behind them a gaudily painted scene representing a conservatory full of plants in flower. After breakfast I went to the Kroonstad Hotel, a large and pleasantly situated building, which in times of peace served to lodge the jaded plutocrats of Johannesburg who came thither for a holiday, but was now used as a hospital. It had two courtyards (one of them laid out as a garden), around which ran single-storey buildings divided into bedrooms, many of which were of good size and well furnished. These were occupied by sick officers, most of them very bad indeed, and among them I was sorry to find Civil-Surgeon Alex. Robertson, of Glasgow, who had been there since 16th May suffering from a severe attack of enteric fever. A large, well-proportioned and airy ballroom had been converted into a general ward, and was crowded with patients, lying (with the exception of four) on the floor. This room was used as the Raadzaal by the Orange Free State Volksraad during the weeks when Kroonstad was the capital, and in the passage from the street to it I found posted a number of official Boer telegrams, a few of which I had taken down, and still have. Numerous smaller rooms were occupied by patients, and some of these, measuring only 10 feet by 8 feet, held eight patients, lying on the floor. Patients also lay in the smoke-room, the dining-room, and even the entrance-hall. Sanitation there was none, for all the drains from the hotel ran into the open "channel" at the side of the street, and the fluid was carried by it into the river, from which all the drinking water of the town and district was obtained. We soon put a stop to the river pollution. But while we got both fluids and solids removed several times daily by the town carts, and took care that they should be well disinfected with carbolic acid or "Izal," I was never satisfied with the mode in which the sewage was disposed of, for it was distributed on the town lands not more than a mile from the station. When floods came it would be all washed down into the river, but fortunately would enter it considerably below the dam which stored up the drinking water.

On the day after our arrival, General Wilson asked if I would take over these temporary hospitals and work them, as the staff of the Field Hospital were required to join their unit without delay. I readily agreed to take charge of one of them (leaving the others to the staff of No. 3 General Hospital when it arrived), and selected the Kroonstad Hotel for personal reasons you will well understand. The burden of that hospital remained on my shoulders till the end of June, and as, of the 130 patients I took over, only three were surgical cases, you will quite appreciate that, if my dreams of extensive surgical work had been rudely dissipated, I had taken a wise resolve and determined to let nothing stand in the way of my doing my best to help the Army Medical Department and the patients in the trying circumstances. Mine was, however, mainly administrative work, and the actual treatment of patients rested with my able assistants, Dr. Cowan, Dr. Garrow, and Civil-Surgeon Watson.

Two days after our arrival at Kroonstad the equipment of the Scottish Hospital and the rest of the staff arrived, along with the staff and equipment of No. 3 General Hospital from Roodebosch, and from henceforth the condition of matters rapidly and continuously improved.

When the British entered Kroonstad they found there a Russian ambulance working a hospital in the secondary schools, and many of the patients were our own soldiers, including several officers of the Lancers and other regiments. It was well equipped and ably officered, and boasted of three efficient nurses, but the conditions as regards air and cleanliness left much to be desired. The equipment of the operating theatre, the acetylene lighting installation, and hand ambulances and mule ambulances were better than we could ourselves show. This hospital was worked alongside of our temporary ones, and was closed about the same time, one of the buildings being now occupied by the Boer prisoners.

This is, perhaps, a fitting time to discuss what you will no doubt expect me to do more than touch on, namely, the allegations made as to the defects in the arrangements of the Royal Army Medical Corps for the treatment of the sick and wounded—or, in other words, the "Hospital Scandal."

We have all well known that for some years past the R.A.M.C. has been understaffed with medical officers, even for the ordinary routine work of the service, and the heads of the Medical Department of the army have not been oblivious of that fact. Consequently, from a very early period in the war, they called for volunteers from among civilian surgeons throughout the empire. How that call was responded to you know, and it is the fact that when we left South Africa the number of civilian surgeons employed in the care of the sick and wounded exceeded those belonging to the regular service. No doubt a serious miscalculation was made at the outset of the war as to the number of troops that would be required, but for that miscalculation the Director-General and his subordinates were in no sense responsible, and it may be claimed for them that they never failed to send out with each division of the army the recognised equipment of field, stationary, and base hospitals, with their full complement of doctors, nurses, and orderlies. The medical authorities did not anticipate, it is true, the terrible outbreak of enteric fever which, in the middle of April, converted Bloemfontein into one gigantic hospital camp, and the news of which sent a thrill of horror through the length and breadth of the empire. Even if they had anticipated it, I doubt if they could have done much in the way of preparation, for hospitals and their equipment, doctors, nurses, and orderlies, could not enter Bloemfontein until the town was occupied by the British. It is not, I assume, seriously contended that the General Hospitals with all their equipment (averaging a ton a bed) should have accompanied French on his lightning march to Kimberley, should have followed the army in the operations at Paardeberg, and should have taken part in the advance on Bloemfontein. On all hands this is admitted to have been impossible. We find, therefore, the army occupying Bloemfontein, with a large and constantly increasing number of cases of enteric fever, and with none but field hospitals for their treatment. Enteric fever, never absent from the towns of South Africa, was here accentuated by the long and exhausting marches, the night bivouacs, the scant food, and the heavy fighting of that time of victories; above all, it had been spread by the men drinking of the water of the Modder River, so polluted by man and beast—living and dead—as to be little better than liquid sewage. The first demand of the army of occupation was for food, ammunition, clothing, remounts, and guns, and all these must, from the military necessities of the case, precede hospitals, doctors, and nurses. The single line of narrow-guage railway—stretching its slender streak for nearly six hundred miles from the main base at Cape Town—was broken in many places by bridges being blown up, culverts destroyed, and permanent way damaged. Nor must it be forgotten that the country to the south of Bloemfontein, through which the railway passes, was still in the occupation of the enemy for a fortnight after that town was taken. Even when they were driven off, the great bridge at Norval's Pont was so damaged that for a time goods and men had to be ferried across from bank to bank. Amid such difficulties as to transport the medical staff had worked, and when things were at length looking brighter, and it was beginning to be possible to look after the treatment of patients, instead of only making up the necessary papers recording their admission and dismissal, came the crowning misfortune in the disaster at Sanna's Post, resulting in the cutting off of the water derived from the reservoir. It was necessary to fall back upon the wells in and around Bloemfontein, at all times suspect, and now more polluted than ever. No one can honestly withhold from General Wilson and his subordinates high praise for all they accomplished under such trying conditions. They themselves readily admit that many things were not as they would have wished them to be, but the fault did not lie with them; they could only do their best in the circumstances in which they were placed, and all who have been in touch with them can bear testimony to their tireless energy and self-devotion. The fault did not lie with the Medical Department of the War Office, nor with the Secretary of State for War or the permanent officials of his department, nor with the Government in power—but it depended on the fact that *war is war*, and cannot be carried on without distress and suffering on the part of the whole army, in which sick and wounded necessarily participate. General Wilson humorously observed to me that nothing would satisfy his critics but that the General Hospitals should be sent up to the enemy's towns, and get into working order *before our troops advanced on those towns!* If we follow out this suggestion, we must imagine a General sending to the leader of the opposite army intimating his intention to take a town at a certain date, and requesting that hospitals and their staffs may be accorded a fitting reception ten days before that date. I fear our civilisation is not yet sufficiently advanced for the speedy advent of such a consummation, but who can tell what the twentieth century may bring forth?

I shall, no doubt, be reminded that many of the charges related to the base hospitals in the neighbourhood of Cape

Town, where the difficulties I have dwelt on did not exist. That is true; but it is precisely these very charges which have notoriously broken down. It will be found when the Report of the Hospital Commission is issued that the hospitals at Wynberg, Rondebosch, and Woodstock, are cleared of the aspersions which have been cast at them, and that the work they have accomplished was great in amount and excellent in quality.

Our camp hospital was located on a portion of the town lands of Kroonstad, sloping up from the residences at the back of the station towards the supply reservoir, and the main water pipe passed through the camp. We were thus able to get a copious supply of the purest water which the district could furnish. The river Valsch, like the majority of South African rivers, runs in a deep and wide gorge, and varies (below the town) from a mere trickle of water to a deep, wide, and raging torrent, according as it is the season of drought or of rain. Immediately above the drift, however, a large and well-constructed dam has been made, having for its base the solid rock which firms the bed of the river, and this dam keeps up the water, and forms a smooth, wide, and fairly-deep river for about four miles, admirable for boating and giving some sport for fishers, and never giving out even in the longest drought. On its banks near the town are some of the finest willows I have ever seen, and the four miles of stored water has its banks clothed with mimosa bushes, and many varieties of trees, which make it in the summer months a really beautiful river, and a daily resort for pleasure-seekers. Even in times of peace it is never free from pollution, for the banks are so steep that horses, sheep, or cattle, coming down to drink often fall in, and, being unable to get out again, lie and rot in the stream. This cause of pollution has been increased ten-fold during the war by the heavy mortality among the army horses, and their decaying carcases lay in the dongas and spruits running down to the river, and every shower of rain washed decomposing matter into the stream. The water was consequently of a yellow colour, and at sundown the odour from the dongas and the river was something we shall never forget. When the Government bacteriologists were with us they found the water taken from the river to contain B. typhosus, and, further, found the B. coli communis plentiful both in the river and in the water of the supply reservoir, although the latter had passed through two filter-tanks.

In the centre of our camp was a large square brick tower, around which our tents were grouped, and it was not till after we had got settled down that we found this to be used for the storage of dynamite for mining purposes. The first days of June found us in a state of scare, for information had been received that the enemy was only about 12 miles distant, and was making for Kroonstad. At that time the town was almost defenceless, but we had the "Paisley Militia" for our guard regiment, and their reputation is well known. The officers of that regiment, fortunately, were able to take possession of some cannon which were passing through the station, and planted them at the top of the hill above the reservoir, and consequently at the rear of our camp. As it was evident that if we were attacked these guns would draw the fire of the enemy, and both our own hospital and No. 3 General (about half a mile away) would inevitably suffer, General C. Knox—who came up in command of reinforcements from Bloemfontein—wished the hospitals to be moved. *Our* only fear was that a Boer shell might lodge in the dynamite magazine, and the career of the Scottish Hospital be summarily cut short. We succeeded in getting the dynamite removed to another store a mile or so across the veldt, and thereafter we decided to remain where we were, and run our risks. With No. 3 General Hospital the scare eventuated in a wide and deep donga being converted by the Engineers into an excellent bomb-proof shelter, into which (if the town was attacked) the patients could be carried.

Colonel Cayley, with most of the orderlies and the equipment of the Scottish Hospital, had arrived at Kroonstad on 27th May, and on 3rd June our tents were all up and our camp sufficiently organised to receive patients. So that, despite the fact that we had had to remove everything from the camping ground close to No. 3 General Hospital to the site we finally occupied, we had got up our hospital equipped and ready for a hundred patients in exactly a week—forty-four days from the date of our leaving Glasgow. For a few days patients came in slowly, but on 7th June we received a convoy of sick and wounded from Lindley. It was a weird scene to see the sinuous line of bullock-teams and waggons, winding across the veldt to our camp, and showing ghostly in the sparse illumination of an early moon in a cloudy sky. From thenceforth there was no lack of patients and there was plenty of work. Surgical cases, if not excessively numerous, were, for the most part, interesting. We had heard before we left home a good deal about the kindliness and gentleness of the Mauser bullets, and about the antiseptic atmosphere which was supposed to account for the rapid healing of wounds.

Believe me, there is no antiseptic atmosphere in South Africa. The air during nearly the whole of our visit was exceedingly dry, and so far was unfavourable to the rapid multiplication of micro-organisms, but dust was ever present with us, stirred up by the cavalry, infantry, artillery, and the long trains of convoy bullock-waggons. It permeated our tents, mixed with our food and drink, got into our trunks and portmanteaux, got up our noses and into our ears. We found it practically impossible to get water free from dust for operative purposes, and that dust was made up in no small part of the dried excrement of animals and even of man. A very large proportion of cases we got were septic when they reached us, and this was especially the case with shell wounds; indeed, one of the latter, which implicated the knee-joint and required amputation, was more freely suppurative than any case I have seen for many years past. Out of a convoy of about forty surgical cases not more than five would have quite clean wounds, and these were commonly those which had been left untouched. Considering the conditions under which the Field Hospitals worked this is not to be wondered at, for they were often unable to get water at all to wash the wounds with, and when they could get it the water was generally highly polluted. I cast no reflections on the field hospitals, for whose really magnificient work I have nothing but admiration—my aim is simply to show that the theory of the "beneficient antiseptic air" has, in our experience, no justification. The secret of the rapid healing of so many of the Mauser bullet-wounds lies in the small size of the bullet and the high velocity at which it travels, and the consequent great penetrating power it possesses. Many of the examples of through and through bullet-wounds we met with were indeed remarkable, and I will give details of some of them:—

1. Lieutenant E., 44th Imperial Yeomanry. Mauser bullet-wound of left arm. Bullet entered at 2½ inches below external condyle of humerus in front, and had exit 1 inch above and behind internal condyle, passing in front of elbow-joint, and yet we had no evidence of injury either to vessels or nerves.

2. A private of the Imperial Yeomanry, who consulted Mr. Luke, had been shot in the pelvis while sitting on his horse. Bullet entered right thigh below trochanter major and emerged at left side of pelvis at the back, having apparently passed right across pelvic cavity without injuring any of its contents.

3. A private of the 10th Imperial Yeomanry had a bullet-wound of the right knee, wound of entrance being at outer side of external condyle of femur, that of exit near the centre

of patella. It had thus passed obliquely through the knee-joint, yet beyond a little fluid in the cavity and slight limitation of flexion there was no evidence of interference with it.

4. Lieutenant A. W., 1st Bombay Lancers (wounded between Bethlehem and Lindley on 3rd July). Mauser bullet entered at right side of back, passing through shaft of eleventh rib, then traversed the liver, and emerged through the seventh intercostal space a little internal to the nipple line. From the course taken we believed that it passed through the upper part of the stomach, and we got stomach percussion note all round the wound of exit. It may, however, have passed between that organ and the abdominal wall, in which case it would perforate the edge of the diaphragm. At the time of the injury he had not taken food for several hours. He had been kept rigidly on milk diet while at Lindley, and we found ourselves obliged to proceed very cautiously as to dietary, for even extract of meat or chicken-tea when administered caused pain. By a long rest in bed and careful dietary he made an excellent recovery. The wounds were both healed when he reached our hospital eleven days after he was wounded. He was seen in London twelve days ago (18th November), and was then in good health, and able to take all kinds of food.

5. The most remarkable case of all was that of Lieutenant H. E., V.-S. of the Irish Yeomanry, and I give the particulars as they figure in my journal report:—Wounded at Lindley on 31st May with a Mauser bullet, supposed to be fired at a distance of 800 or 900 yards. Wound of *entrance* in front of chest at centre of sternum, opposite fifth intercostal space; *exit* at posterior edge of left deltoid muscle. How this bullet escaped his heart is one of the numerous anatomical puzzles of this war. The shot rendered him momentarily unconscious. He had no spitting of blood, but had a momentary sensation of choking. Below the left axilla there was an area of ecchymosis, evidently due to the bullet in its course wounding a vein in the lower part of the axillary cavity. The wound of entrance had all the appearance of going through the sternum, and there was no mark of the course of the bullet on the outside of the chest, where the tissues were very thin and should certainly have shown evidences of the track. If the bullet was a spent one, it might have followed the curve of the chest wall, but in that case I do not see how it would have force enough to carry it through the shoulder, and make a clean sharp exit wound. He was quite clear that the distance from which the Boers were firing was from 800 to 900 yards, and at such a distance a Mauser bullet would

go through everything. Did the heart escape? It is quite possible that the bullet went through it, for death would not necessarily follow.

"Hairbreadth escapes" were no doubt numerous throughout the war, but I shall only chronicle one which, it seems to me, should not be left unrecorded. A lieutenant of the ill-fated "Sherwood Foresters" saw a comrade struck down by a wound in the abdomen, and at once took up the wounded man to carry him out of the line of fire. He had picked him up off the ground and carried him a few steps, when he was himself struck by a bullet, which passed in through the ala of the nose of one side and out at the other, and then entered the head of the man he was carrying and caused instantaneous death!

Wounds of the chest were not uncommon, and in one convoy from Lindley I got four cases of perforating wounds of the lung into the wards under my immediate care. In one of these the bullet had entered half an inch below and a little outside the inferior angle of scapula, and after traversing the lung had passed through the clavicle of the same side. There was no hæmothorax, but slight condensation around the wound of entrance. In a second, the bullet entered through the third intercostal space in front, and escaped at the posterior edge of the scapula, and here again there was no hæmothorax, but in the other two cases there was blood in the pleural cavity, and in one of them so much that the heart was displaced and the respiration much impeded. This I treated by aspiration—about 60 oz. of blood being removed—and the patient made an excellent recovery. Mr. Luke treated a similar case (a Basuto "boy") by open operation, as in empyema, with good success.

Mr. Luke's case of resection of bowel for gun-shot wound, I trust he will publish particulars of himself. It is, as far as I am aware, one of two successful cases during the whole of the war, the other one having been operated on in Natal.

We had three cases of trephining for bullet-wounds of the skull—one performed by Mr. Luke, one by Dr. Stirling, and the third by myself. In the case under my care the patient, when admitted to the hospital, had absolutely complete paralysis (both sensory and motor) of the left arm, and left facial paralysis, due to a wound in the arm and face areas, and the bullet was supposed to be still in the skull. On removing a large disc of bone, I found a cavity in the brain commencing to suppurate, but no trace of the bullet. I introduced my little finger, and with it explored the brain in all directions, but without result. Carefully clearing out all septic material, the cavity was lightly packed with iodoform gauze, which was removed on the sixth day. He improved very rapidly, and a month after the operation it was recorded that it was quite impossible, with the most careful observation, to distinguish any defect either in the face or arm.

One other brain case should be briefly mentioned. It is that of Captain A., of the Cameron Highlanders' Mounted Infantry, who was wounded at or near Vredefort. The bullet entered the right side of the head at the parietal eminence, and emerged at the left side nearly at the same point, but a little nearer the middle line, traversing therefore the upper part of both hemispheres of the brain. He was completely blind for eight days, but on the eighth day could faintly distinguish a lighted match. Trephining was performed by Dr. Osborne, the local practitioner at Vredefort, before the eighth day, and when patient was admitted to our hospital the wounds were quite healed. He could then read No. 2 Jaeger at 12 inches, but when he tried the second line got from it into the first, and so mixed them up. When walking about the grounds and the town of Kroonstad, he could not find his way, but required some one to walk with him. But the most marked defect was that he had *horizontal hemiopia*, the upper half of the field being entirely blind, excepting a little on the left side with the left eye. In the right eye the line of separation between the seeing and blind parts was a straight horizontal line, and was drawn a little above the true horizontal meridian of the eye. I showed this patient to Professor D. J. Cunningham, when the Hospitals Commission was with us, and he was much interested in it as agreeing with the distribution of the fibres of the optic radiations. As these radiations are generally regarded as passing to the cuneate lobe, it appears to me that the track of the bullet must have been at least an inch above their course. Captain A. was one of the patients who came home in the s.s. *Trojan*, and I thus was able to make a further study of his case. He had made very considerable progress, and was able to read a book with fair comfort and ease, but his hemiopia still continued.

To give details of many of our cases would be both tedious and uninteresting, but I must speak of two cases of traumatic aneurysm, which present points of unusual interest, The first is a case of traumatic aneurysm of the profunda femoris artery:—

Captain M. W., 1st Royal Irish, wounded with a Mauser bullet, near Lindley, on 20th May. Wound of *entrance* about 4 inches below Poupart's ligament of right side, and a little external to line of superficial femoral artery; *exit* at back of thigh a little external to gluteal fold. The bullet had passed on the inside of the femur, and had not touched that bone. The wounds healed in the course of a few days, but a traumatic aneurysm formed, for which nothing was done but keeping him at rest in bed. He stated that by the 4th June the swelling had considerably diminished in size. He was seen on that date by Dr. Mason, who reported to me that there was then a distinct thrill in the tumour, suggestive of an arterio-venous connection. About 10th June, he was allowed to sit up in a chair, when renewed hæmorrhage took place into the tissues, and this obscured the thrill. He was brought over from Lindley, and admitted into the Scottish Hospital on 3rd July. On that date I made the following note:—"Girth of limb at level of wound of entrance, 24½ inches; left leg, 18 inches. Swelling is firm and non-fluctuant; there is almost no pulsation, and no evident thrill. Pulse in posterior tibial at ankle good. No œdema of leg. Aneurysmal bruit very distinct with stethoscope." It was decided to keep him at rest in bed, and to administer iodide of potassium, and see what amount of absorption took place. On the 11th July, it was recorded that the girth of the limb had diminished an inch, but that pulsation could now be distinctly felt. On the 12th, 13th, and 17th, the temperature rose to 101° F., and on each occasion an increase in the size of the tumour was noted. Professor Chiene saw the case with me when he was in Kroonstad, but would only say that the last case of that kind he saw turned out to be an abscess. In spite of this cryptic saying, I think he agreed with me as to the real nature of the tumour. Patient was kept longer under observation than I intended, in consequence of my having a localised paraonychia of the index finger of left hand, which was troublesome to get healed. On 6th August, the journal says, "Since last report there has been no definite improvement in the local condition, for while there has been some absorption at the outer side of the mass, there has been considerable increase posteriorly, so that the girth of the limb has been increased rather than diminished. Operation is therefore decided on, and patient agrees."

"*7th August.*—Operation performed this morning under chloroform administered by Dr. Graves. A long incision was made near the inner border of the front of the thigh, exposing the adductors longus and magnus, and, on separating the fibres of the latter, the false sac of the aneurysm was reached and incised. The hæmorrhage was controlled by Mr Luke compressing the abdominal aorta with his closed fist. A large mass of clot was removed, and fluid blood welled up freely from the cavity. After clearing out the cavity, it was firmly packed with gauze, and a second incision made at the outer side of the line of the superficial femoral artery. On reaching the outer limit of the aneurysmal sac, it was found that the vessels leading into it were much damaged, and their walls friable, so that it was difficult to get a ligature to hold. The wounded artery was the main trunk of the profunda, close to its origin from the common femoral. In front, and in close relation to it, ran the superficial femoral artery, and its connection with the aneurysm was so intimate that it was at one time feared it would be necessary to ligature it. Fortunately, it was found possible to avoid this, and what seemed satisfactory ligature of the profunda was accomplished. The cavity was then packed with iodoform gauze. The operation lasted nearly two hours, and at the end of it the patient was almost pulseless. He was kept in a bed in the operating theatre, and by evening had rallied well. His temperature after operation was 96°, but in the evening it rose to 99° F." He made an excellent recovery, in spite of some suppuration taking place in the cavity. On 20th August the long inner wound was stitched up, and the outer wound packed and left to heal by granulation. When we left Kroonstad, on 20th September, I brought my patient away with me, and he remained under my care till we landed from the s.s. *Trojan* at Plymouth. The outer wound was completely healed about a week before we reached England. I have heard from him twice since our arrival, and gather that he is making good progress, though it will be some time before the muscles of the thigh become sufficiently stretched to allow of the leg being straightened at the knee.

The other case of traumatic aneurysm was even more interesting, although not so fortunate, for we did not manage to pull him through the terrible operation I found necessary. The patient was a young German law student who had volunteered to join the Boers out of love of adventure, and being wounded at Lindley was brought in to our hospital with the convoy from that place, and figured in our official lists as a prisoner. He was under the care of Dr. George Hodge, and as that gentleman has remained at the hospital at Elandsfontein, near Johannesburg, I have to give the details of the case from memory, for Dr. Hodge has the report of the case. The patient was struck by a bullet (presumably a Lee-Metford) in the middle line of the neck, over the upper part of the trachea. It passed to the right across the common carotid artery and evidently took away a portion of the anterior wall. The wound of exit was at the back of the scapula, the bullet having passed through the thin bone of the infra-spinous fossa. The wound of entrance was very small and was soundly healed, that of exit was discharging pus, and a few days after his admission it was found necessary to enlarge and pack this opening. In the posterior triangle was a swelling, the nature of which we did not at first appreciate, and it was neither definitely fluctuant nor pulsatile. A careful examination of it convinced me that it was aneurysmal, and this judgment was arrived at mainly because it was continuous with a swelling in the line of the common carotid, and that the latter was clearly an aneurysm. As the swelling was daily growing larger, and I feared a rupture into the pleura, it was decided that an operation should be performed. The anæsthetic was most carefully administered by Dr. Hodge, and there was no complication in its exhibition, excepting when I on one or two occasions made traction on the vagus. An incision was made along the anterior edge of the sterno-mastoid, and it was at once apparent that the tumour extended so far down the neck that it would be difficult, if not impossible, to reach its lower limit. I therefore applied a ligature on the carotid on the distal side of the aneurysm, in the hope that I might be able to follow down on the posterior surface of the tumour. In this attempt I failed, as the wall of the aneurysm was so thin as to discourage traction or manipulation, and was so inseparable from the fasciæ of the neck that it could not be dissected out. The next step was to divide the sterno-mastoid across and turn the divided ends upwards and downwards. The internal jugular vein was now seen to be lying in close relation to the tumour, and it was found necessary to ligature it in two places, divide between them, and dissect it off. Still I could not reach the lower limit of the tumour, and it was decided to resect the sternal half of the clavicle, which was done subperiosteally. In doing this I accidentally punctured the subclavian vein, or tore across a small vein entering it, and this caused us much trouble. At length I was able to get my finger down to the innominate artery, and place an aneurysm needle behind it, but while engaged in this manœuvre my fingers ruptured the delicate lower wall of the sac, and free hæmorrhage ensued, which could only be controlled by the fingers plugging the opening. My ligature was duly passed round the innominate artery and secured, but still the bleeding went on. After several attempts to stop it had failed, we discovered that it was the large aneurysmal sac which was emptying; it must have contained more than a pint of blood. With my fingers in the sac I could feel a fracture of the first rib near its tubercle, where the bullet had passed out to the back, and below, the lung seemed in immediate contact with the fingers. The operation had lasted more than three hours, and the patient's condition was critical. When the sac was emptied of the blood the hæmorrhage ceased, and we were able to complete the operation by stitching up the wounds. It was by far the most trying operation it has ever fallen to my lot to perform, and I have especially to thank Mr. Luke for his very valuable aid. I could wish for no better assistant in a trying emergency. The lad was put into a bed in the operating theatre and soon regained consciousness, but only to expire within an hour of the completion of the operation. The *post-mortem* examination, which was held next morning, revealed nothing new; the innominate was properly ligatured and the aneurysmal sac emptied. We found that on the pleural aspect the sac was so thin that it must inevitably have ruptured in the course of a few days.

Other interesting cases we had, but time will not permit of a reference to them.

The number of cases treated in our camp hospital from the time of its commencing work till 14th October, when it was handed over to the Government, was—Officers, 74; non-commissioned officers and men, 908; civilians, 70; total, 1,052—and if we add the 130 treated at the Kroonstad Hotel we have a grand total of 1,182. The records at the hotel were so imperfectly kept that I can make no use of them for statistical purposes. Excluding these, the mortality over all the cases under our care was 1·71 per cent. The surgical cases numbered 427, with a mortality of 1·4 per cent. No conclusions can be based on the low mortality thus shown, for many of the cases received from Lindley were convalescent when they were sent from there, and on one occasion a party of Cameron Highlanders who were sent up by train to go to the Rest Camp made a "bee-line" instead to the Scottish Hospital, where they knew they would get comfortable beds and good food.

The health of the staff of the hospital was for the most part excellent, and the first contingent (that, namely, with which I went out) had practically no illness among them, so that we returned home in the best of health and without a break in our circle. On our way out we had been inoculated with anti-typhoid serum obtained direct from Professor Wright, and Colonel Cayley personally superintended the operation. With one or two exceptions, we were all inoculated twice, and the fact that—although we were at Bloemfontein at the height of the epidemic and our nurses worked in the hospitals there, and again at Kroonstad found the disease very active —none of us took enteric, seems to me fairly conclusive as to the protection secured by the inoculation. Our second contingent was less fortunate than we were, for although during the time of their stay in South Africa enteric was less prevalent than in our early days, five of them took the disease and two died. Of the latter, one had been inoculated once, the other not at all. The difference between the protection secured from inoculation by the two contingents was brought out in another and very interesting way. Two bacteriologists (Drs. Dodgson and Collingwood) were sent out by the Government to investigate and report on inoculation for enteric; they spent about a fortnight at Kroonstad at the end of August, and were much interested in the evidence of our two contingents, for we were living under exactly the same conditions and running the same risks. The test they applied was the amount of dilution the blood serum would stand and still give Widal's reaction. Of the first contingent, 23 were tested and *all* reacted. 2 gave poor reactions (1 in 20); 12, good (1-40); 7, very good (1-80); 1, unusually good (1-160); 1, extraordinary (1-500). Of the second contingent, 22 were tested. 11 gave no reaction; 8 gave a very questionable reaction; 1, poor reaction (1-20); 1, good; 1, very good. Yet the second contingent was inoculated a month later than the first. The only explanation we could find or suggest, was that the first contingent was inoculated with serum prepared less than a month before being used, while that used for the second contingent had been on the vessel since the beginning of the year. We are generally told that serums of this kind will keep for a year or more without change, but our experience seems to suggest that this statement may prove to be erroneous.

We found living in tents rather trying at first, when the nights were very cold, but soon got accustomed to it, and then enjoyed thoroughly the free out of door life. The cloudless skies and warm sun were charming, and, as we were fully 4,500 feet above sea level, the air was never oppressive. I met with several men who had been obliged to leave the old country because of pulmonary troubles, and who were in robust health. Indeed, I can imagine no more delightful and invigorating climate than that of the high veldt. If only there were no dust-storms, and if we could ensure unpolluted water to drink!

Of the war itself—of the trials and sufferings of our troops, of victories and defeats, of the right conduct of military operations, and of the future of the two small states with which we have been at war—this is neither the time nor the place to speak.

Sufficient for us that we have been out and performed the duty entrusted to us, and returned safe and sound, with a wider knowledge of the world and a broader and deeper experience of war and all that it entails. If we have accomplished nothing great, we are, at least, happy in the knowledge that, in a land which has been described as the "graveyard of reputations," we have maintained the honour and credit of "old Scotland."

A CLINICAL DEMONSTRATION GIVEN TO THE CLASS IN GYNÆCOLOGY, ST. MUNGO'S COLLEGE, 1ST DECEMBER, 1900.

By J. K. KELLY, M.D.,

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Lecturer on Gynæcology, St. Mungo's College.

GENTLEMEN,—We shall depart from our usual custom this morning, and, instead of devoting ourselves to a detailed examination of one or two patients, we shall take a rapid review of all the cases in the ward. This I propose to do chiefly because we have just now quite an unusual number of serious cases for a ward of this size.

In Bed I is a patient, 36 years old, who was married four months ago, and had an abortion at the third month, four weeks before admission, on 20th November. In the lower abdomen is a hard, irregular tumour, rising to about 5 inches above the pubis. This tumour presents the physical character of a uterine myoma, and consists of several distinct nodules, the most prominent of which is to the right of the middle line. The patient is pale and anxious looking. She has always suffered from menorrhagia and dysmenorrhœa, and although she only observed the tumour for the first time ten weeks ago, her attention being called to it, no doubt, by the occurrence of pregnancy, it must have been present for some years. Its presence, no doubt, accounts for the menorrhagia and dysmenorrhœa from which she has suffered, and the consequent pallor and emaciation. It also probably accounts for the occasional incontinence of urine. The married state has added a new element of discomfort, and a very serious danger in the form of pregnancy. At a time not far past this patient would have been advised against operation, would have been told to take rest, to avoid the possibility of pregnancy, and to take ergot, but I consider her condition too serious to be met by measures such as these, and I propose making an abdominal section, and removing the tumours by enucleation, so as to leave a uterus which may become pregnant without danger; and, if that is not possible, I shall remove both the uterus and tumours *en masse.*

In Bed II is a patient, whom you saw on a previous occasion, suffering from complete laceration of the perineum, with fæcal incontinence. She was operated on on 15th November. The sutures were removed yesterday, and she has now a satisfactory perineum, with perfect sphincter action at the anus.

In Bed III is a patient from whom I removed this pregnant left Fallopian tube on 24th November. Her case is to myself a most interesting one, as it is the only case in which I have had an opportunity to diagnose a pregnant tube before rupture, and I failed to take advantage of the opportunity.

I saw her first on 7th November. She suffered then from uterine and rather spasmodic pains, from a uterine discharge, and had a tender swelling at the left side of the cervix, which I took to be an ovary enlarged by the presence of small cysts. Her medical attendant (Dr. James Hamilton) suspected tubal pregnancy, but, although the pain and discharge had come on after seven weeks' amenorrhœa, it was not unusual for her to have an interval of five or six weeks between her periods, and I did not consider that much stress should be laid on that fact. There was no marked pulsation in the left fornix such as I expected would be present with a pregnant tube, and there were no symptoms of pregnancy.

On 19th November, I was asked to see her again, and, as the uterine discharge continued, I went prepared to curette. Under chloroform, the tumour to the left of the uterus felt considerably larger than when I examined it twelve days before, and had distinctly the form and position of a dilated tube. Was it possible that this could be a pyosalpinx, or was it, after all, a pregnant tube? I sent the curettage to a pathologist for examination, and in two days had a report that the material suggested only subacute inflammation of the endometrium, but I was to receive the sections for examination in a day or two.

On the afternoon of 23rd November, after being very well since the curetting, the patient took a sudden severe pain in the pelvis, and nearly fainted. She was seen in a state almost of collapse shortly after, but, when I saw her about three hours later, she had recovered from the faint condition, though she still complained of considerable pain. The tumour *per vaginam* was larger, indistinct in outline, and there was little doubt that rupture of a pregnant tube had occurred. Arrangements were made to bring her into hospital next day for operation. On that day, 24th November, I got the sections of the curettage for examination, and what did I find? A beautiful example of decidual cells! Any shred of doubt as to the condition was now abolished.

At the operation, we found several ounces of dark blood in the peritoneum. The tube was deeply fixed in the lateral pouch of Douglas, but there was no great difficulty experienced in bringing it up to the surface and removing it. The patient is now, we may say, perfectly well, and will return home in little more than a week.

In Bed IV is a patient who was married seven months ago, and came into the ward, on 24th November, as an urgent case, her medical attendant fearing that this was a case of ruptured tubal pregnancy.

There was a mass to be felt in Douglas' pouch, behind the uterus, and filling the left posterior quadrant of the pelvis, and there was a history of a sudden illness after a fall three weeks ago.

On examination, however, I came to the conclusion that this mass was not a hæmatocele or the remains of a hæmatocele, but a pyosalpinx, and that, too, of long standing. On inquiry, we found that, though her symptoms had been increased since marriage, she had not been well for at least three years. She had grown thinner, had suffered from left iliac pain, increased at the menstrual period, and the menses tended to be profuse.

These tubes are, we might say, perfect examples of pyosalpinx, the left, which is the larger of the two, having been that which filled the left side of the pelvis and passed round into Douglas' pouch. It was this which was felt on examination. The right appendages were lying at a higher level, and were not reached by the pelvic examination. They were much less adherent to surrounding structures, and, although in themselves not much less in size, the mass they presented to examination was small compared with that which was presented by the densely adherent appendages on the left side.

In Bed V we have another case of pyosalpinx. In this case we had acute recently-developed symptoms, associated with an attack of gonorrhœa. This had shown itself thirteen days before admission, and we found abundant gonococci in the vaginal discharge.

But the condition of the appendages was evidently one that had existed far longer than a fortnight, and I regarded the case as one in which a gonorrhœa was superadded to a pyosalpinx which had been present for some months. Probably we must date it from a puerperal inflammation which occurred after the birth of her child, seven months ago. Whether or not that inflammation was due to gonorrhœa, like the present, we cannot now say, though it is only too probable.

In the presence of the acute symptoms, we were tempted to delay operating, but the sufferings of the patient were so great that, after she had been a fortnight in the ward, we felt that we should delay no longer. We operated yesterday, immediately after the case in Bed IV. The tubes, as you see, are much smaller than those of the former case, but the adhesions to omentum and other neighbouring structures were even more difficult to deal with.

In Bed VI is a patient who was seized with a sudden pain in the hypogastrium and right iliac region five weeks before admission on 9th November. The pain was not accompanied by any sickness or faintness, but was so severe that she had to lie down for a little. It was followed by a brownish fœtid discharge from the uterus, which continued, more or less profuse, from the beginning of October till we operated on 16th November.

The diagnosis in this case lay between a ruptured tubal pregnancy with hæmatocele, and a large tubo-ovarian cyst, possibly containing pus. The uterus was raised up, and carried forward towards the anterior abdominal wall, somewhat as it is in hæmatocele, but the tumour in Douglas' pouch did not seem to me to have the consistency of a hæmatocele. The sudden development of symptoms, of course, looked like a tubal rupture, but I have seen many cases of pyosalpinx where the sudden onset of symptoms simulated tubal rupture. The case in Bed IV may be taken as an example.

At the operation we found that there was a pregnant tube containing a mole, that there was a small hæmatocele round its fimbriated end, but that the main part of the tumour was formed by a cyst of the ovary which had been prevented by adhesions from ascending out of the pelvis, and, as it enlarged, had raised up the uterus.

The left tube and ovary were perfectly normal. The patient is now well, and is to leave the ward in a day or two.

In Bed VII is a patient from whom I removed these enormously dilated tubes and ovaries. This tumour from the left side formed the biggest pyosalpinx that I have ever seen, and when we opened the abdomen, it seemed as if it would be impossible to remove it, its size was so great, and its adhesions to neighbouring parts so firm. We tapped it with a trocar, hoping, in that way, to carry the pus beyond the peritoneum and the wound, but in this we were only partially successful, and a good deal of stinking pus welled over the exposed surfaces in the process of removal. The tumour on the right side also ruptured during removal, and gave vent to pus of the same character.

We had diagnosed this case as most probably a hæmatocele. The lower abdomen was occupied by a large tumour, the main portion of which was to the left of the middle line, where it reached above the level of the umbilicus. The portio vaginalis was slightly displaced forward, and a firm mass occupied Douglas' pouch, suggesting a hæmatocele which was undergoing absorption.

There was a history of a sudden onset of illness thirteen weeks before admission, characterised by pain in the left iliac region, sickness, giddiness, and a feeling of distension in the abdomen. Three weeks thereafter, she was examined under chloroform by a very competent physician, and no tumour was discovered. Since the illness began, the pain had continued very severe, she had frequent shiverings and sweatings, had lost colour and flesh, and was confined to bed.

On the idea that this was a hæmatocele already in process of absorption, we kept the patient at rest, used hot vaginal douches, and applied hot fomentations over the lower abdomen. There were occasional attacks of very severe pain, but the pain was less continuous than before admission. The temperature on one occasion reached 101°, on three other occasions it was 100°, 100·4°, and 100·8°, but usually it was below 99°. What caused us most anxiety in her case was an exceedingly weak and rapid pulse, and we gave her strychnine and digitalis.

Occasionally she was very faint and sick, especially in the mornings, but, usually by the afternoon she was fairly well and could take her food, and even felt inclined to sit up in bed.

We persevered in this way for over three weeks, but, as the condition did not improve, while it did not become notably worse, we resolved on operation on 20th November, and found the condition I have described.

In Bed VIII is a patient, 49 years of age, who was in the ward for a fortnight in September. The uterus was then large, measuring 3½ inches, and freely movable. She had undergone an operation on the uterus, probably a curetting, four years before, for a pain in the left side which has continued since. During the last three years her menstrual periods have been irregular, sometimes an interval of some months occurring between the periods. During the past year she has had a discharge of "bealing" on four occasions.

I curetted the uterus in September, but the patient went home before we had the curettage examined. When we did examine it we found that the sections were cancerous, and accordingly we wrote for her to return to the ward for extirpation of the uterus. This she willingly agreed to, as the pain had been unrelieved by the operation in September.

We removed the uterus on 23rd November, and had some difficulty on account of its size and the unusual shortness of the broad ligaments. To facilitate its removal, I bisected it and removed each half separately with its tubes and ovary, as you see. The disease, to the eye, seems entirely confined to the mucous membrane of the body, and we trust we have been able to extirpate the disease completely.

In Bed IX is another patient whose uterus we removed on 28th November. It is, as you see, rather longer than the former one, having measured 4¾ inches to the sound, but its walls are much less thick, and it did not give rise to the same difficulty in removal.

This patient is 51 years old, and has suffered from prolapse for fourteen years. Had there been only a prolapse, I should probably have done a ventrofixation and a perineorraphy instead of a hysterectomy, but, for the last year, the patient has suffered from uterine hæmorrhage, accompanied by fœtor and preceded by pain. She has also lost flesh and colour, and her general health has deteriorated. With the fear of some malignant condition beginning in the uterus, we resolved on hysterectomy, and that all the more readily that we can hardly regard it as a much more dangerous operation than ventro-fixation.

In Bed X is a patient for whom we have done a ventro-fixation and perineorraphy for prolapse. She is 42 years old, and the menopause occurred two years ago. The uterus measured on admission 3¾ inches, and on exertion lay almost completely outside of the vulva with the vaginal walls fully everted. This prolapse had existed for nineteen years, having come on when she rose out of bed after the birth of twins.

In her case I made an abdominal section, sutured the posterior aspect of the fundus and upper part of the body of uterus to the peritoneum of the anterior abdominal wall, and then did an extensive perineorraphy.

This operation was done on 14th November. On the 26th we removed the sutures from the abdominal wound, and on the 28th we removed the perineal sutures. She is to be allowed to return home on the 3rd inst.

In Bed XI is a patient who was in the ward in August of last year, that is, about fifteen months ago, with a complete laceration of the perineum, which had been operated on several times without success. On 29th August, 1899, I repaired the perineum, but five days thereafter fæcal matters began to come in small quantity *per vaginam*, and while the perineum held perfectly, a small rectovaginal fistula was left above the sphincter. This, we thought, might gradually close, but it did not do so, and on 23rd November she returned for operation. I intended trying to repair the fistula, while leaving intact the beautiful perineum which we had obtained from the former operation. But when we had the patient under chloroform, we found a very tiny sinus running from the edge of the anus up to the fistula above, and we decided that the only safe plan was to divide the perineum again, and do the whole repair *ab initio*. This was, of course, much easier than the closure of a small fistula, the edges of which would have required very careful manipulation, and I am hopeful that the result will this time be entirely satisfactory!

The other three patients in the ward have just been admitted, and we have not yet completed our examination. So far as we yet know, they are: (1) a case of endometritis, resulting from stenosis and acute anteflexion, probably of congenital origin; (2) a retroversion with adhesions; and (3) a double pyosalpinx of some years' standing.

THE GLASGOW MATERNITY HOSPITALS: PAST AND PRESENT.[1]

BY ROBERT JARDINE, M.D.,

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MY first duty to-night is to return you my sincerest thanks for the high honour you have conferred upon me in electing me President. I shall endeavour to merit the confidence which you have placed in me by striving to my utmost to forward the interests of the Society.

For the past two years I have been working at the records of the Maternity Hospital, and it has occurred to me that an address on the history of that institution might be of interest to the Society. I do not intend to bore you with endless tables of statistics, which, however profitable, are too often weary, flat, and stale, but I shall attempt to give a historical sketch of the past and present hospitals.

In Dr. Duncan's interesting *Memorials of the Faculty of Physicians and Surgeons of Glasgow* it is stated that, "at the end of the sixteenth century, the number of surgeons practising in the town did not probably exceed half a dozen, and there is only evidence of the presence of one physician, though the plural is sometimes used. There were, however, in addition, at least two midwives, and it is presumed that the whole of the obstetric practice of the burgh, except difficult cases, was in their hands. . . . Where the Glasgow midwives got their training at that time does not appear, but that their morals were looked after by the kirk there is evidence to prove. Thus, from the Records of the Presbytery, 4th April, 1589, we learn that one Kate Freland was summoned before that body, 'to ass^{r} for her professioun to be ane midwyfe, qlk has not been knawin w'in ye toun and citie of Glasgow to ye inhabitatis yair, and to underly ye (censure?) of ye kirk according to her demerites.' It further appears that the special interest of the ecclesiastical authorities in the midwives lay in the fact that under certain circumstances they were called on to perform one of the ordinary functions of the minister. Thus, by minute of February, 1599, the midwives are 'deschargit to go to an unmarried woman, within, while first they signify the matter to some of the ministers in the daylicht, and if it be in the nicht time that they take aiths o' the said woman before they bear the bairne who is the fayther of it, as they will be answerable to God and the kirk'" (pp. 18-19).

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[1] Address delivered at a meeting of the Glasgow Obstetrical and Gynæcological Society held in the Maternity Hospital, 21st November, 1900.

There is little wonder that the ministers demitted this function to the midwives. It could not have been a pleasant task in the daytime, and at night it must have been a sore trial to the worthy fathers of the kirk.

"In 1740 the Faculty instituted an examination for midwives, which was continued throughout the century. The minute of the 4th August of that year bears that, 'The Faculty having considered the many dismall effects of the ignorance of midwives, and that it is incumbent on the Faculty to prevent these evills as much as they can, They Therefore Enact that, after the first of January, 1741, any midwife who shall pretend as such to practise within the shyres of Lanark, Renfrew, Ayr, and Dumbarton without a license from the Faculty shall be fined in the sum of fourty pounds. . . . And as the Faculty have no other view than to prevent ignorant persons from practising midwifery, they appoint that such as shall voluntarily submit to an examination towards their being licensed shall pay no freedome fyne, nor be at any furder charge than two shillings and sixpence sterling to be payed the clerk for each of their licenses.' The number of applicants was considerable, but not a few were found to be ignorant, and were debarred from practice" (p. 101).

It will thus be seen that the registration of midwives, which has been such a burning question south of the Tweed during the last few years, is no new thing in Scotland. I have not been able to procure a copy of the license granted, as there does not seem to be one in the Faculty library. There is no mention of any unlicensed midwives having been fined. This may account for the examination having been abandoned, as the license apparently conferred no protection upon the holder. There is nothing stated as to the amount of tuition the candidate was required to have undergone before appearing for examination. In their own interest they must have had teaching of some kind, and that was probably given by practitioners of medicine or surgery. Dr. Duncan states that "in the *Glasgow Journal*, 15th October, 1759, Mr. James Muir, advertised:—'James Muir, surgeon, will begin a course of lectures on midwifery upon Monday, 12th November. No woman will be admitted to these lectures unless her character for sobriety and prudence is attested by some person of reputation in the place she lives in. Mr. Muir continues as usual to deliver gratis all such women as apply in that way for his assistance. He intends to begin a course of midwifery for students about the end of December or beginning of January.' A similar advertisement, by James Monteith, appeared on 19th March, 1778:—'Midwifery: James Monteith, surgeon (having provided the necessary apparatus), proposes, on Thursday, 26th of March, to begin a course of lectures on the theory and practice of midwifery, to which will be added a set of lectures on the diseases of women and children, observations on inoculations, &c. Inquire at his shop, middle of Stockwell Street, or at his lodgings, Miss Semple's, New Street. At a separate hour, attendance will be given for the instruction of women in the practice of midwifery.'"

No doubt other surgeons carried on the same work, so that intending candidates for the licence of the Faculty would have opportunities of learning something about the subject. The gratuitous attendance of poor women at their own homes, for the purpose of instructing midwives and students, began the work afterwards carried on by the out-door department of the Maternity Hospital.

I have given these somewhat lengthy quotations from Dr. Duncan's book so that we may be able to form an idea of the midwifery work, and how it was done among the poor in those days.

The Glasgow Lying-in Hospital and Dispensary, as it was first called, like all the other special hospitals—or, for that matter, practically all the hospitals in Glasgow—owes its foundation to a medical man. I do no injustice to the founder of this institution, or of any of the others, when I say it was probably not done for pure philanthropy. All the same, he deserves great credit for having established an institution which has done, and is doing, a tremendous amount of good, not only among the poor patients, but in training students and nurses for their work.

In the eighteenth annual report of the Glasgow Lying-in Hospital and Dispensary, issued in December, 1852, it is stated that, "About sixty years ago, when the first lying-in hospital was opened in the city, it was interdicted by the magistrates." I wrote to Sir James Marwick, LL.D., town-clerk, and asked if he could furnish me with particulars of this from the old records of the Town Council. He very kindly sent me excerpts from the minutes of December, 1795, and January, 1796, which show that at that time there was a small private lying-in hospital belonging to James Towers, surgeon. Mr. Towers applied to the Town Council asking for a grant to defray the expenses in connection with poor cases he had admitted and treated, many of them on the recommendation of the magistrates. A committee was appointed to visit his place and report. They gave a favourable report, and recommended that the Council should make a yearly grant of ten guineas to Mr. Towers. His place had then been in existence for four years, so that it had been opened in 1791. It was entirely supported by himself, except for the fees received from medical students. Mr. Towers must have been a lecturer on midwifery. He afterwards, in 1815, became the first professor of midwifery in the University. How long he carried on this lying-in hospital I have not been able to ascertain, but it certainly was in existence for over four years, during which time about seventy women were confined, and all successfully. The place may have been closed later on, but it was not interdicted at the opening. This is the first attempt at the founding of a lying-in hospital of which I can find record.

According to Dr. Duncan, Dr. James Wilson made an attempt to found one in 1805, so presumably Mr. Towers' place had ceased to exist. The Fellows of the Faculty refused to assist in the matter, apparently on the grounds that he was doing it for his own personal aggrandisement. His second attempt, made in 1834, was, however, crowned with success. By this time the city had increased considerably in size, and there was great need for such an institution.

In a meeting held in the Town Hall on the 19th September, 1834, the following resolutions were moved, seconded, and unanimously adopted:—

1. "That, in consequence of the great and rapidly increasing population of Glasgow and its suburbs, a public lying-in hospital has long been a desideratum in this city, for affording the necessary accommodation and assistance to indigent married females, under circumstances which are at all times attended with suffering, and frequently with danger, and where the want of such accommodation and assistance has often proved fatal to the mother, to her offspring, or both."

2. "That such an institution is also wanted for the purpose of affording to students of medicine the means of practical improvement in this important department of their profession, and for placing the Glasgow school of medicine upon a footing with those of the other parts of the Empire."

3. "That this meeting do therefore agree to the immediate establishment of an institution to be designated the Glasgow

Lying-in Hospital and Dispensary, and that its general affairs be managed by twenty-five directors to be chosen annually from public bodies, and from qualified donors and subscribers in the proportion and in the manner to be afterwards determined upon."

4. "That the professional affairs of the charity be entrusted to six or eight practitioners of medicine, who shall be annually elected by the directors from medical men who have been at least ten years in practice, without reference to their being members of any medical school or corporation."

Committees were appointed to draw up the constitution and regulations, and also to obtain subscriptions.

We are not concerned with the constitution and laws, except in so far as they related to the admission of patients and to the duties of the staff.

No patients were to be admitted except married women who were unable to pay for medical assistance at home. Lines of admission were necessary, and were to be signed by an elder, district surgeon, or other respectable person. Advice was to be given two days a week on "female complaints and the diseases of children" by two of the staff.

You will notice that "indigent married females" were the only ones eligible for admission. The poor unfortunates who had not been blessed by the kirk were to be left severely alone. Some of the subscribers considered that if single women were admitted it would encourage vice. In looking over the records, one is struck with the fact that, in spite of this apparently hard and fast rule, many unmarried women were admitted. The rule was honoured more often in the breach than in the observance. When brought to task about this, the medical officers pleaded that they only admitted very urgent cases of this class, as in common humanity they could not turn them away. There must have been a good many urgent ones. This rule actually held good, or rather was systematically broken, for twenty-five years, when it was apparently rescinded, as the directors then announced that the institution was for poor and homeless lying-in women. It is curious that that feeling of opposition to the attendance of unmarried women still survives, and occasionally one hears it said that the Maternity Hospital should not be supported because it encourages vice. I need not waste time refuting such an absurd contention, but I would like to point out that through the Deserted Mothers' Home, which works in connection with the Hospital, an attempt is made to reclaim those who have fallen for the first time, and many of them are reclaimed and put in the way of making an honest living, instead of going from bad to worse. To the medical officers the presence or absence of a marriage ring should be immaterial. Married or unmarried, the woman requires attention.

As regards the staff, it was to consist of eight practitioners of at least ten years' standing in the profession. Two were to be physician-accoucheurs in charge of the in-door work, two to give advice on female complaints and the diseases of children, and the remaining four were to attend women at their own homes with the nurses and students, as it was decided to have an out-door as well as an in-door department. The ten years' standing in the profession was departed from in the instance of two of the out-door men. It has since been entirely dropped, even for the highest appointment. The appointments were to be annual, and the men were not eligible for more than four consecutive years without a break. This was also departed from, because the two chief physicians appointed remained in their posts the remainder of their lives. I think it was a wise provision that the appointments were to be made "without reference to the men being members of any medical school or corporation." Until the present day the Hospital has had an independent existence, and is not controlled by any of the medical corporations in the city. The Faculty of Physicians were allowed to send one director, like the Trades' House and Town Council, and the president was, *ex officio*, a director, just as the Lord Provost is. It is quite evident that there must have been a feeling against the Faculty having too many representatives on the board, because a regulation was passed that one of the ten directors nominated by the qualified contributors should be a medical man, but not a Fellow of the Faculty. The relations between the Faculty and the Hospital have, however, been quite cordial throughout, and in 1880 the Faculty made a grant of £100 to the Hospital. Since then, two directors, in addition to the president, have sat on the board. It is rather striking that the University was not asked to send a representative. William Cummin was professor of midwifery in the University then, but his name never appears. To the extra-mural teachers belongs the credit of the starting of the institution.

The Hospital began on a very small scale on the second flat and garrets of the old Grammar School in Greyfriars Wynd, off George Street. The rent was £30 a year. The premises must have been very unsuitable. There was apparently no bath in the place, and actually no water-closet at the beginning, as one had to be fitted up.

It was opened in December, 1834, and the first confinement took place about a month later. The first patient admitted bore the curious name of Mrs. Virtue. The contributors who objected to unmarried females being assisted must have been gratified that Virtue was so promptly rewarded by the new institution.

For the first ten years the Hospital had a very hard struggle. Funds were very low, in fact, so scarce at one time that the landlord had to reduce the rent. The amounts allowed the matron for the feeding of herself, servant, and staff were absurdly small. For herself, 1s.; for the servant, 9d.; and for each patient, 6d. per day. There was not much room for luxuries in those amounts. It is hardly to be wondered at that one of the matrons was found to have run up a bill of some £17 with a grocer. After that the tariff was revised, and a more liberal allowance made.

Within a few months of the opening of the Hospital, puerperal fever broke out and two of the patients died. The servant also died of erysipelas, and the matron was very ill. The medical men at once cleared the place of patients, several of whom were in waiting for delivery. It was thoroughly cleansed and fumigated before any more were admitted.

In 1841, a cheaper house was taken in St. Andrew's Square. This building was also very unsuitable, and cases of puerperal fever were not uncommon. Again and again the hospital had to be closed for cleaning and fumigating. The managers were blamed, and an opposition hospital was threatened. I find reference to this opposition place in the minutes of a meeting of directors, at which the prospectus issued to the public was discussed. There is also mention made of the fact that several contributors had, in error, paid their subscriptions to the General Lying-in Hospital. Again, in the report for the year 1853, it is announced that a large increase in the number of patients was due to "the closure of one or both of the other lying-in hospitals."

From this one would imagine there had been two opposition places. There are no records of these places in the Faculty library, so no reports can have been issued to the public. If they were started with the idea of swamping the original one, they failed in the attempt. Their opposition evidently did good, because from about 1843 matters began to mend, both financially and otherwise, and a new and larger house was taken in an adjoining land. This building was not found very suitable, and an effort was made to accumulate sufficient funds to provide a better. A few years later malignant puerperal fever broke out on two occasions, and, during part of one year, every patient admitted suffered from fever. A committee was appointed to look out for a site to build a new hospital on, but, year after year, they reported they could not find one. At length, in 1860, they were able to secure an old house, on the site of the present building, at the corner of Rottenrow and North Portland Street. Many alterations were made, and it certainly was an improvement on the former places, but still far from what a maternity hospital ought to be. It was fitted up for twenty-one beds. For two years very few septic cases occurred, but in 1863 there was an outbreak of puerperal fever, and the building had to be closed, cleaned, and repaired.

Towards the end of the seventies, it was decided to pull down the old building, and erect a new one on the same site. In November, 1879, the work was begun, and the new hospital was ready for opening in January, 1881. During building operations, the work was carried on in the old Fever Hospital, in Kennedy Street, off Parliamentary Road.

Mr. Robert Baldie was the architect of the new building. In his plans he endeavoured to give effect to all the modern improvements suggested by the staff, Dr. J. B. Russell, and others who were connected with similar institutions. I need not occupy your time with a description of the hospital, as you are all perfectly familiar with it. However up-to-date it may have been twenty years ago, it now falls very far short of what a maternity hospital should be in a city like Glasgow. The population of the city has enormously increased within the last twenty years, so that a hospital which was large enough then is far too small at present. It was originally intended that only one flat should be used at a time, so that the empty flat might be thoroughly fumigated and ventilated. During the last year or two we have had to depart from this arrangement, on account of the number of patients being so great that both flats are frequently required to accommodate them. We have nineteen beds on each flat, not counting the two beds in each labour room. I have had as many as thirty-four patients in at one time. Another great drawback is that we have no isolation ward. There was one planned for in the upper storey, where the nurses' dormitories are, but this was found to be quite unsuitable. Another serious defect is that we have no operating room, and the labour room on each flat is no larger than an ordinary bedroom. Considerable improvements have been made recently, but what is required is a new and larger building, specially adapted for aseptic work, and with residential quarters for students attached, or near at hand. At present, some of the nurses, the servants, and one of the house-surgeons have to sleep out of the hospital. I trust that the

Fellows of this Society will make a point of urging upon their wealthy friends the pressing necessity there is for better accommodation, first, in the interest of the patients, and, second, in the interest of the students and nurses. When I come to speak of the work done at the present day, and compare it with that of years ago, it will become more evident to you how urgently a new place is required. If we had a proper place, we might have the finest teaching school of practical obstetrics in the kingdom. We have the material, but, under present conditions, it cannot be fully utilised.

History is repeating itself, as it so often does, and we are once more threatened with an opposition hospital. The city is, no doubt, large enough for two small ones, but, in the interests of administration and teaching, separate institutions will be a great drawback. In union there is strength, and I can see no reason why a united effort should not be made to build one hospital, worthy of this great city.

You will remember that there was originally a dispensary connected with the hospital, as the name Lying-in Hospital and Dispensary implies. Two physicians were appointed to give advice on diseases of women and children. At first, no medicines were given out, so very few patients applied. After a year or two, the directors voted that not more than £5 should be spent annually in medicines for the dispensary. After a few years the dispensary in connection with the first hospital was given up. It was again revived and carried on for a few years in the old hospital in Rottenrow, but ceased to exist before the present building was opened. I believe that abdominal sections for ovarian tumours, &c., were occasionally done in the old hospital. Some time ago an eminent consultant in the city told me that in his student days he acted as clinical clerk in the old Maternity Hospital. It was at the time that Lister was carrying on his experiments with antiseptics. The future consultant was deeply interested in these experiments, and, one day, when the staff in the Maternity were discussing an abdominal section for a simple ovarian cyst, he made bold to hazard the opinion that it would be a very risky undertaking, considering that there had been some cases of puerperal fever in the ward. He was told that there was no risk, as there had not been a case for twelve days. The operation was done, but the patient died of peritonitis in a few days. Possibly this was the last one done in the hospital, as the dispensary work was shortly afterwards given up.

I have spoken of an opposition lying-in hospital. Besides this there was for many years a University dispensary, from which students attended midwifery cases at the homes of the patients. This dispensary was situated in George Street, just at the foot of North Portland Street, and, no doubt, many people bound for the Maternity at the top of the hill were intercepted by the dispensary at the foot. It was given up about the time the University migrated to Gilmorehill. The present professor of midwifery was for some years one of the physicians to this dispensary.

In connection with the work done from the University dispensary there is an amusing entry in the out-door case-book of the old hospital. It reads as follows:—"A midwife and student from the University (High Street) were in attendance upon this woman, and delivered her of the child, but could not manage to take away the placenta, although they pulled and hauled at it for about two hours; at the expiration of which time the friends of the patient thought they had been long enough at work without doing any good, and came to this hospital for assistance. Mrs. Nevin went, and brought away the placenta without the least difficulty." This was in 1846, so that students must have been attending cases from a dispensary at that early date.

From the very first a large amount of work has been done in the out-door department of the hospital. At present nearly four times as many women are attended at their own homes as in the hospital. This work is, as you know, done by nurses, students, and young graduates, under the supervision of the out-door house-surgeons. The various district men also render assistance when necessary. Some twelve years ago the directors opened the West-end Branch in St. Vincent Street. About five hundred cases a year are attended from this branch by the nurses and lady students. For over two years a lady doctor has been appointed house-surgeon to the branch. Only lady students are now allowed to take cases at the branch.

As regards the methods of carrying on the work in the early days, the matron seems to have had most of the cases to deal with, as the vast majority of them were normal. She was assisted by nurses and students. One of the senior students acted as clinical clerk. For many years an out-door matron supervised the work of that department. She seems to have dealt with cases of version and adherent placenta, but all instrumental work was done by the district accoucheurs. One of the out-door matrons died of fever, probably typhus, contracted from one of her patients. This malignant fever was very prevalent at times, and many of the cases were ill with it at the time of delivery. Under such circumstances the death-rate was bound to be high, but many of them recovered. Cases of typhus and small-pox occasionally found their way into the wards, but they were removed as soon as the disease developed.

In the older hospitals, patients were frequently admitted weeks, and some of them even months, before delivery. At present only exceptional cases are admitted before labour sets in.

The first house-surgeons appointed did not live in the hospital, but near at hand. However, when the present building was opened, a resident in-door and an out-door house-surgeon were appointed. For the last two years we have had two out-door men, as the work has become too great for one.

Many interesting entries might be quoted from the old journals. On 12th September, 1837, a Mrs. Nisbet, æt. 27, was confined of her third child, a boy. The following entry stands after her name:—"This woman is a niece of the famous Scottish bard, Robert Burns." I have consulted a number of enthusiastic admirers of Burns, but none of them have been able to throw any light on the subject. The entry was apparently made in good faith by the clinical clerk. The woman evidently volunteered the information, just as one informed me that she had a brother a minister, and another one that she was the sister of a town councillor. In both of these cases the information was correct.

An amusing entry is made about a case of pseudocyesis:—"Dismissed for imposition, saying she was pregnant and in labour, and she really was not pregnant and, of course, not in labour."

I have been interested to note some of the methods of treatment. In 1836, plugging was adopted in placenta prævia, and also in a bad case of post-partum hæmorrhage. They had a good many cases of the latter. The douche was then unknown, but in bad cases the hand was introduced to clear out the uterus, which was then firmly kneaded on the closed hand inside by the external hand over the abdomen. I always adopt this method in bad cases, preparatory to using the hot douche. Ergot was, of course, given, and cold applications were usually applied over the abdomen and vulva. In the treatment of eclampsia, blood-letting was largely used, and I notice that this was also freely practised in septic cases. In the latter, depressants, such as antimony, were frequently used. I cannot be certain when antiseptics were first employed, but they have been extensively used ever since the present hospital was opened. At present, aseptic methods hold the field.

It is very interesting to compare the work of the early years with what is done at present. I do not mean as regards results, but as regards the nature of the cases and amount of operative work.

In the next volume of *Glasgow Hospital Reports*, I shall publish a statistical statement of thirty years' work in the hospital, dealing with the cases attended between 1869 and 1898 inclusive. They are made up in three ten-year periods, out-door and in-door separately. To give an idea of how different the work now is from what it was in the early days of the hospital, I now give you a list of the operations and the abnormal cases dealt with in the first hospital in Greyfriars Wynd, and also the same in the present hospital for the ten years from 1889 to 1898.

In the old hospital (from December, 1834, to October, 1841—almost seven years), 445 cases were attended.

The operative cases were—

Forceps,	6 (1 in 74)
Version,	2 (1 in 222)
Craniotomy,	1 (1 in 445)
	9 (1 in 49)

Complications—

Post-partum hæmorrhage,	6 (1 in 74)
Placenta prævia,	1 (1 in 445)

The craniotomy was done on a jammed after-coming head, but no mention is made of the pelvis having been contracted. The first case of contracted pelvis recorded was in 1842. She was in labour for twenty-four hours when the pains ceased. Version was done, and she died. A *post-mortem* examination revealed rupture of the vagina and bladder. The true conjugate measured 3 inches.

During the ten years from 1889 to 1898 inclusive, 4,322 cases were attended. These are only of premature and full time labours, as I have omitted abortions and miscarriages.

The operative cases were—

Forceps,	650 (1 in 7)
Version,	154 (1 in 28)
Craniotomy,	112 (1 in 39)
Induction of labour,	90 (1 in 48)
Cæsarean section,	56 (1 in 77)
Post-mortem section,	2 (1 in 2,161)
	1,064 (1 in 4)

Roughly speaking, the percentage of operations has increased tenfold, and in, addition, we have induction of labour and Cæsarean sections, which were not done in the early days.

Complications—

Post-partum hæmorrhage,	63 (1 in 70)
Placenta prævia,	45 (1 in 96)
Accidental hæmorrhage,	28 (1 in 154)
Eclampsia,	47 (1 in 92)
Rupture of the uterus,	8 (1 in 540)
Occlusion of the os uteri,	1 (1 in 4,322)
Insanity,	7 (1 in 613)
Scarlet fever,	5 (1 in 864)
Measles,	2 (1 in 2,161)
Chorea,	2 (1 in 2,161)
Enteric fever,	3 (1 in 1,440)
Malacosteon,	1 (1 in 4,322)

A mere glance at these tables shows at once how tremendously the work has increased. The number of contracted pelves I have not attempted to enumerate, but, roughly speaking, they amount to 10 per cent of the cases, and that is not counting slight contractions. It is a very striking fact that we now have so many cases of contracted pelvis to deal with, while in the early days of the hospital they were exceedingly rare. I have discussed this in my paper in the *Hospital Reports,* so shall not occupy your time with it now. The great increase in operative work has taken place within the last two decades, especially within the last. This brings out the great necessity there is for a new and larger hospital. I think if the benevolent public could be brought to realise how necessary a new hospital is, we should not be long without the funds.

I shall now say a few words about the men who have held the posts of chief physicians to the hospital. The staff has always been a fairly large one, counting the district men, but space will only allow me to deal with the two chief physicians.

Dr. James Wilson and Dr. James Brown were the first two appointed. James Wilson was a Fellow of the Faculty, which he entered in 1816. He was educated in the University of Glasgow, and took his M.D. in 1837. He lectured on midwifery in the Portland Street School of Medicine from 1830 to 1838, so he was lecturing at the time of his appointment. He died in 1857. He was on the staff until his death.

Dr. James Brown was a Fellow of the Faculty, admitted in

1827. He was a native of Paisley and educated in Glasgow. He lectured on anatomy and physiology in the Mechanics' Institution, and was professor of midwifery in Anderson's University from 1834 to 1841; so he also was a lecturer at the time of his appointment. He remained on the staff until his death in 1846. If the founding of the institution was due to the efforts of Dr. Wilson, Dr. Brown did a great deal for it. He was very active in raising funds when they were sadly needed, and for many years acted as treasurer. The minutes contain various special votes of thanks conferred upon him for his services in raising funds for the institution. Both Dr. Wilson and he tendered their resignations after three years' services, in order that other medical men might have opportunities of gaining experience, but the directors refused to accept the resignations.

After Dr. Brown's death, Dr. Alexander Stewart was appointed his successor. He had been on the out-door staff from the beginning. He was an M.D. of the University, but does not seem to have been a Fellow of the Faculty. He remained on the staff until his death in 1855.

He was succeeded by Dr. J. G. Fleming, who at that time was on the out-door staff. Dr. Fleming remained as an ordinary physician-accoucheur until 1860, when he became consulting surgeon. He resigned this post in 1866. He was afterwards a director. Dr. Fleming was an M.D. of the University and a Fellow of the Faculty, of which body he was twice president. He was a surgeon to the Royal Infirmary, and afterwards a manager. In was on his initiative that a medical school was affiliated with the Royal after the University moved west. He opened the school with an address in 1874. He died in 1879. His son, Dr. W. J. Fleming, is well known to us all.

A few months after Dr. Fleming's appointment, Dr. J. G. Wilson, the son of Dr. James Wilson, was appointed on the staff. There were thus three physicians from 1855 to 1857, until Dr. James Wilson died. Dr. J. G. Wilson was professor of midwifery in Anderson's College from 1863 until 1881. He was on the staff of the hospital from 1855 to 1881 (as ordinary physician-accoucheur until 1875, and then as consulting physician until his death). The father and son were on the staff almost fifty years.

In 1865 Dr. R. D. Tannahill was appointed a consulting physician, but next year a change was made on the staff, and he was made physician-accoucheur along with Dr. J. G. Wilson. He was an L.R.C.S. Edin., M.D. of Aberdeen, and a Fellow of the Faculty. He was a physician to the Royal Infirmary and surgeon to the Lock Hospital. He died in 1887.

Dr. Hugh Miller succeeded Dr. J. G. Wilson in 1875. He was physician-accoucheur until 1883, when he became consulting physician until his death, which occurred only a few years ago.

The succeeding members of the staff are with us still, viz., Dr. Samuel Sloan, Dr. W. L. Reid, Professor Murdoch Cameron, Dr. E. H. L. Oliphant, Dr. Malcolm Black, and myself. The first four are now consultants.

In conclusion, allow me once more to bring before you the necessity there is for a new and extended hospital. I appeal to the Fellows of this Society to make this known to their friends. I feel confident that if the generous public of this great city only realised that we are hampered in our work by the want of suitable accommodation, we shall not be long without the necessary funds to build and equip a maternity hospital worthy of the second city of the Empire.

Obituary.

THOMAS WILSON JENKINS, M.A., M.D.

Dr. Jenkins was born in Glasgow in 1862, and after receiving his earlier education at the High School, proceeded to the University of this city. He graduated in Arts in 1883, and obtained the degrees of M.B. and C.M. in 1887. He became M.D. in July, 1889, his thesis being entitled "Chorea." After leaving Glasgow University, he studied in Berlin, Prague, and Vienna. He practised in Glasgow for a number of years in Pollokshields, but removed in May, 1899, to the west end—a change which he imagined told prejudicially upon his health, though this is very doubtful. His private practice was largely, if not entirely, gynæcological and consulting; and, in the laboratory of the Victoria Infirmary, he worked at the anatomical aspect of his specialty with a devotion that led some of his medical friends to suspect that herein lay the true secret of his breakdown. He was Dispensary Surgeon for Diseases of Women at the Victoria Infirmary, and he also held the appointment of Assistant Surgeon to that institution, where he was specially associated with Mr. Parry. At one time he was Dispensary Physician to the Samaritan Hospital. He was a Fellow of the Obstetrical and Gynæcological Society of Glasgow and of the British Gynæcological Society, and a member of the Medico-Chirurgical and Southern Medical Societies of Glasgow. He was treasurer of the Glasgow and West of Scotland Branch of the British Medical Association, and was closely connected with the fortunes of the Southern Medical Club.

Various contributions from Dr. Jenkins's pen, particularly on obstetrical and gynæcological matters, have appeared in the pages of this *Journal*, and for some time he contributed the "Abstracts" in the Department of Surgery, the last of the series by him being published in January, 1900.

Dr. Jenkins was one of the most cultured as well as genial of the younger members of the medical profession in Glasgow. He was fond of old books, and also of the Spanish language and literature, and indeed of things Spanish in general. The latter taste was doubtless born in him through his relations with a favourite friend who resided for a long time in Spain, and whom he visited in that country. And over the old books, the night would rapidly pass towards morning, as Jenkins displayed to his guests his treasures of ancient literature, and revealed some of the quaint secrets that he had discovered among their contents.

Happy in his private life, his friends, his books and his work, he had made a good start in what promised to be a successful professional career, when it gradually became evident that his appointed labour was drawing towards its completion. His illness is supposed to have begun a couple of years ago, but until last spring it did not interfere with his usual pursuits, and it was only in April that he left Glasgow for a time in quest of health. Health, however, was not regained, and as the summer passed, the disease assumed a more threatening aspect. He resided for a time in a sanatorium near Edinburgh, but still the disease progressed, and it was an immense satisfaction to himself when he was brought home again last month. He died—a week after his return—on Saturday, 15th December, at the age of 38.

CURRENT TOPICS.

Glasgow Royal Infirmary.—The following appointments have been made:—*Dispensary Physician*—Dr. David M'Crorie; *Dispensary Surgeon*—Dr. Archibald Young; *Extra Dispensary Surgeon*—Dr. A. Galbraith Faulds.

Keen's Mustard—Robinson's Patent Barley—Robinson's Patent Groats.—At this season of festivity it is perhaps not surprising that articles of dietary should be brought under our more immediate notice. Robinson's Patent Groats make delightful porridge, which is sure to suit very many people, though, personally, we prefer the coarser grained oatmeal. Robinson's Patent Barley seems to be primarily intended as a diluent of milk for use in the feeding of infants, but we can testify that it will make an excellent pudding for adults as well. Keen's Mustard is so well known that further mention is unnecessary.

MEETINGS OF SOCIETIES.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

Session 1900-1901.

Meeting III.—2nd November, 1900.

The President, Mr. H. E. Clark, *in the Chair.*

I.—CASE IN WHICH GASTROSTOMY HAS BEEN PERFORMED FOR ŒSOPHAGEAL STRICTURE CAUSED BY SWALLOWING CAUSTIC ALKALI.

By Dr. W. F. Gibb.

J. G., aged 3 years and 6 months, was admitted on 23rd January, 1899, to Paisley Infirmary. Two months previously he drank a quantity of caustic soda solution. He recovered satisfactorily from the immediate effects of the accident, but gradually manifested difficulty in swallowing. On admission he was emaciated and pale. He could only swallow small quantities of milk with great difficulty. Taking a teaspoonful into the mouth, he kept it there a few seconds, and then apparently forced it down. After ten minutes or so, about half the milk returned.

Mucous membrane of mouth and larynx were pale, but fauces showed no cicatrices. After a few days he began to swallow milk somewhat better. In February several unsuccessful attempts to enter the stricture were made, but on 24th it was dilated by passing olive-pointed whalebone sounds, up to second largest size of the set. The result was that for a month he was able to swallow bread, porridge, and mince-meat. In April he was unable to swallow solids; a partially successful attempt to dilate was made, and on 6th April he was dismissed somewhat improved.

On 4th June, 1900, he was readmitted. During past fourteen months he had lived on milk and corn-flour. Three days ago dysphagia became complete. An attempt was made to pass bougies, but unsuccessfully. At a point 6½ inches from the teeth the bougie met what appeared to be a completely closed part of the œsophagus. After the effects of the chloroform passed off he was able to swallow milk, and by 6 P.M. had taken one pint. Next day, however, he was absolutely unable to swallow a single drop.

On 7th June gastrostomy (Frank's method) was performed. Again it was found that, on recovering from chloroform, he could swallow milk fairly well.

On 9th June the stomach was opened, and an indiarubber catheter inserted. He remained in infirmary until 17th July. The gastric fistula acted perfectly, and he was regularly fed by injecting semi-liquid food into the stomach. Some days he was unable to swallow even milk, but when dismissed had improved, and could swallow semi-liquids.

On 17th August he came in for a few days. The gastric fistula had, through an overlook, been allowed to close. As he was able to swallow porridge, bread, and biscuit, nothing was done beyond an unsuccessful attempt to pass the œsophageal sound.

His mother informs me that for some time past he has only been able to swallow liquids, such as milk and thin corn-flour, but not bread; but days pass when he has great difficulty. Not long ago he ate some potatoes, and for a week after was much worse. His parents decline to permit further treatment. His general health is rather poor; he is small, pale, easily tired, and somewhat thin.

Remarks.—I understand it is not often an accident occurs to produce such serious stenosis of the œsophagus in a child. I have not been able to get any information regarding the strength of the caustic solution swallowed, but as the child's stomach seems not to have been permanently damaged, the solution was probably not highly concentrated. Doubtless there is some degree of cicatricial stenosis. And yet, that the dysphagia is not entirely due to that is likely, from the facts that chloroform anæsthesia was always followed by improved swallowing, and that some days the child swallows better than others.

It has been urged as an objection to gastrostomy that, if by and bye one wishes the fistula closed, this will be a matter of difficulty. This case shows that, performed by Frank's method, the fistula will heal firmly unless carefully kept open.

II.—FOUR CASES ILLUSTRATIVE OF THE LOCAL LESIONS RESULTING FROM THE SWALLOWING OF LIQUID AMMONIA.

By Dr. Walker Downie.

In connection with the interesting case just shown and described by Dr. Gibb, and which I had the opportunity of examining some months ago, I thought it might be of interest to members of this Society should I relate the results of ammonia drinking in four of the more serious cases which have come under my observation recently. Two of those cases illustrate the immediate local effects following the drinking of strong solutions of ammonia, and two the later results.

Solutions of ammonia are now largely used for domestic purposes, and this may account for the increased number of cases in which it has been the cause of traumatic inflammations of the fauces, pharynx, and œsophagus.

Case I.—A few days ago, at the request of Dr. Finlayson, I saw one of his patients in the Western Infirmary, who, in a state of frenzy, had swallowed some liquid preparation of ammonia.

On admission to hospital on 11th October, the day following receipt of injury, there was œdema of the uvula, extensive erosion of the palate and of the lining mucous membrane of the cheeks, and her voice was husky. Attempts at swallowing caused severe pain. After admission she vomited dark coloured material like altered blood, and the stools were for some days black in colour. She at that time also complained of tenderness over the sternal region, but not in the epigastrium. Eight days after the swallowing of the fluid I examined her throat. There was then a general injection of the palate, and the uvula, from its tip up to its junction with the soft palate, was coated with a firm fibrinous exudation. Patches of a similar inflammatory exudation were also present over portions of the right tonsil and right posterior pillar, on the lower part of the posterior wall of the pharynx, over both arytenoids, and over the upper border of the epiglottis.

Both ventricular bands and both vocal cords were deeply injected, but there was no exudation over them, nor were there any traces of œdema.

The fluid remaining in the bottle from which the patient drank was examined by Professor Glaister, who reported to Dr. Finlayson that, of the 100 parts it contained, there were 9·8 parts of pure caustic ammonia and 90·2 parts of water; and he remarked further that liq. ammonia fort. as used for chemical purposes contains 36 to 37 parts per cent of pure caustic ammonia, and he concludes that the liquid found in the bottle corresponded to a diluted commercial ammonia which is ordinarily sold for domestic washing purposes.

Case II.—On 16th June, 1900, Donald R. was admitted to the Western Infirmary under my care. He was one of the crew on board a steam yacht, and, with the others, had been working late loading coals at Ardrossan. When they had finished about 1 A.M., the ship was got under way, and the crew went below. There glasses were produced, and what was thought to be whisky served out. Donald was the first to drink it. At least half of the contents of the glass entered his mouth, and part had been swallowed before he was aware of the mistake. The fluid was liquid ammonia, used for cleaning purposes in the steward's department. Two and a half hours later the yacht reached Tighnabruaich, where he was seen by a doctor, who, after administering treatment, sent him to Glasgow.

On swallowing the ammonia he had at once experienced a painfully hot burning sensation in the mouth and throat, and very shortly afterwards he vomited, but he took no notice of the appearance of the vomited matter. On arrival at the infirmary he still complained of the burning in his throat. His temperature was 101·4° F. Vinegar, freely diluted, was at first given, and olive oil in frequently repeated doses thereafter.

On examination, the palate, fauces, pharynx, and larynx were found to be deeply injected and considerably swollen. On the following day there was a greyish exudation over the uvula and the free border of the palate, any interference with which caused the surface to bleed. There was a similar exudation over the lip of the epiglottis and over the posterior half of each aryepiglottic fold, and both arytenoid eminences were œdematous. Any attempt to swallow caused severe pain, chiefly about the level of the larynx, but at the end of eight days, when he was dismissed from hospital, pain on swallowing had practically gone, the exudation had been cast off, and the parts affected had almost assumed their normal appearance.

Case III.—Francis C., aged 50, a painter by profession and a tippler by habit, returned from his work one evening in March, 1899, to find, on entering the kitchen, a black quart bottle on the dresser. This he at once laid hold on, and, putting the bottle to his mouth, gulped down a quantity, when, to his horror, he found that it had contained, not whisky, but liquid ammonia, used by his wife for the washing of clothes.

For days following this occurrence his throat was highly inflammed, swollen, and very painful.

He came under my care on 23rd May, two and a half months after the accident, on account of difficulty in swallowing. He could swallow fluids only, and these passed down very slowly, and had to be taken cautiously. No evidences remained of the injuries in the fauces, pharynx, or larynx.

A whalebone sound, with ivory olive end of 14 mm. diameter, was used to examine the œsophagus. A stricture was encountered first at the pharyngeal opening of the gullet. Slight pressure enabled the olive tip to get through, and the instrument then readily passed downwards to a distance of 12¾ inches from the incisor teeth, where a second stricture was encountered, and beyond which the instrument could not go, even on firm pressure.

A No. 12 conical gum-elastic bougie was then used. This was passed through the upper stricture easily, and the point passed through the lower stricture with comparative ease, but the shoulder was caught tightly, and firm pressure was required to push the instrument on into the stomach.

Case IV.—Eliza R., aged 66, came to my department at the Western Infirmary in August, 1899, complaining of difficulty in swallowing since the previous March.

Throughout the winter she had had bronchitis, and had some medicine to relieve her cough. One night in March she was so distressed with her cough that she rose out of bed to take some of the medicine, but by mistake she took a dessert-spoonful of strong liquid ammonia, used by her for washing clothes. The burning pain in the mouth and throat produced by the ammonia was very severe. She was seen by her own doctor, and under treatment the eroded surfaces healed.

Two months later she experienced difficulty in swallowing solid food, and from the end of June her diet had consisted of milk, soups, and tea. Since that date, also, she has found that even bread softened in those fluids would not pass over.

The same whalebone sound, with ivory olive end (14 mm. in diameter), was used to examine the gullet. At a distance of 5½ inches from the upper gum a stricture was detected. With slight pressure the sound passed through the stricture, but was again caught at a distance of 10 inches from the upper gum, where the further progress of this sound was checked. A bougie of 8 mm. diameter was then used, and this passed through both constricted areas and on to the stomach with comparative ease.

In the two latter cases the regular passage of graduated bougies was employed for weeks, with great benefit. This was most marked in the latter case. The patient was most regular in her attendance, and she can now enjoy and swallow ordinary diet, including butcher-meat, if finely minced and well masticated.

Remarks.—The local effects which follow from the drinking of liquid ammonia naturally depend largely on the strength of the solution. When the fluid taken is that usually employed for domestic purposes, there is, as an almost immediate result, acute inflammation of those parts with which the fluid has come into contact, and this is accompanied by considerable pain. In some cases the mucous membrane of the palate, fauces, and pharynx may not only be deeply congested, but separation of the epithelium may occur, and the surfaces may bleed readily on being touched.

This inflammation is almost always followed within the first twenty-four hours by the appearance of a fibrinous exudation, which is usually found over the uvula, free border of the palate, on the lip of the epiglottis, and over the arytenoid and aryepiglottic folds. In all cases which I have had occasion to examine, the surfaces so injured healed satisfactorily, and no scar remained to indicate the site of the injuries received. But while this is the case in connection with the fauces, pharynx, and larynx, serious cicatricial changes very frequently occur within the gullet, so frequently, I think, as to make this the rule; and these changes take place even in those cases where the injuries to the upper parts have been considered of a trifling character.

The result of the formation of these cicatrices is that deglutition is interfered with. This cicatrisation appears to set in within a comparatively short time after the parts have been injured—in from one to three months after the swallow-of the ammonia.

Another point which I have noted in almost every case of the kind which has come under my observation is that there are two strictures—one close to the mouth of the gullet, and a second at a variable, but very distinctly lower, level.

Treatment by gradual dilatation in this form of stricture is, *if resorted to early*, usually followed by most satisfactory results.

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In dealing with strictures of the gullet resulting from traumatic œsophagitis, I am in the habit of using the whalebone sound, with olive-shaped ivory end, for diagnostic purposes. In pursuing treatment, however—that is, for purposes of dilatation—I employ the bulbous cylindrical gum-elastic bougie, or the flattened bougie (oval in section), and the largest sizes which can be passed are used; for complete dilatation is necessary to give anything like permanent relief.

III.—NOTES OF TWO CASES OF CRANIAL DEPRESSIONS IN NEW-BORN INFANTS SUCCESSFULLY TREATED BY A NEW METHOD.

By Dr. J. M. Munro Kerr.

The bones of the fœtal vault are very resilient, consequently a very little force applied to the depression from the inside is all that is necessary to relieve the indentations. If proof of this is required I would refer you to the two cases of Boissard[1] and Sacheyrin.[2] The force, however, must be applied early, otherwise difficulty may be experienced in raising the bones.[3] Indeed, it was knowing this resiliency of the bones, but not being able to apply a force to the inside, that led some of the older writers to suggest cupping-glasses, air-pumps, adhesive plasters, with cords attached to their centre by which traction could be executed. Indeed, except for such devices, which have never been taken seriously, and opening the skull, as has been done by Boissard and others, no attempt has been made at the immediate relief of the deformity.

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[1] Boissard, *Notes et Observations Cliniques*, Paris, 1892.

[2] Panzani, *Thèse*, Paris, 1896.

[3] Prudhomme, *Thèse*, Paris, 1900.

Case I.—About three years ago I attended a lady in her first confinement. Everything went on satisfactorily except that the head took up and maintained an occipito-posterior position. As the second stage was being unduly prolonged, I applied forceps, the head being at the outlet. With a moderate degree of traction I delivered her. The child, a female, was of average size, and mature. It was slightly asphyxiated, and had, very much to my surprise, a deep, spoon-shaped depression of its right frontal bone. With a little cold water and slapping, &c., the child cried, and, indeed, I could not say that it was much affected by the deformity.

While looking at the indentation, it occurred to me that, by compressing the head firmly antero-posteriorly, sufficient pressure might be exerted on the depressed bone to cause it to spring out. I hardly expected the simple manœuvre to be so successful, for in the first attempt the depression came out, producing a sound as when a dent in a felt hat is removed. The infant certainly cried louder soon after.

After this success I tried the effect of compression on artificially produced depressions in stillborn children. Sometimes I have been unable to produce such depressions, but, in all, when I have found it possible, the indentations have been relieved by antero-posterior compression, indentations of the parietal bones especially coming out with great ease.

Since the one described, I have seen no case of indentation of the skull, so I have had no further opportunity of trying the treatment.

I am able, however, through the kindness of Dr. Malcolm Black, Physician to the Maternity Hospital, and Dr. Dunning, (I asked the former to be good enough to try the treatment if a case occurred in his practice), to report a second successful case.

Case II.—Mrs. X., iii-para, had been previously delivered of two dead children, the first after craniotomy and the second after induction and craniotomy. At the third confinement, a month or two ago, Dr. Dunning, who was in attendance, called Dr. Malcolm Black in consultation, and the latter delivered the child, which presented by the breech. The extraction of the after-coming head was attended with very great difficulty, as the pelvis was very much deformed. The child's heart was beating very feebly. Over the left frontal bone there was a large, deep, spoon-shaped depression. Artificial respiration brought about little improvement in the child's condition. Recollecting my request, Dr. Black tried compression, with the result that the indentation came suddenly out with a jerk. The child almost immediately after began to make attempts at respiration, and the heart commenced to beat more strongly; indeed, before long it was quite out of danger.

How far this simple method of treatment may prove successful I cannot say, as the cases described are the only two living children on whom it has been tried. I am hopeful, however, that in most cases it will be successful, because, as Milne Murray has pointed out, compression of the skull in an antero-posterior direction brings about an elongation of the vertical diameter of the head, and indentations are almost always situated in the parietal or frontal bones.

A paper dealing with the subject in greater detail will, I hope, shortly appear in one of the weekly journals.

(*The report of this Meeting will be continued in our next issue.*)

OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

SESSION 1900-1901.

MEETING I.—24TH OCTOBER, 1900.

The President, DR. ROBERT JARDINE, *in the Chair.*

I.—SPECIMENS.

1. **PROFESSOR MURDOCH CAMERON** showed a fibro-cystic tumour successfully removed by abdominal section.

2. **DR. J. K. KELLY** showed a suppurating ovarian cyst removed by abdominal section.

3. **DR. J. EDGAR** showed two uteri—the one removed for carcinoma of cervix, and the other for adeno-carcinoma of the body.

II.—DISCUSSION ON THE DIAGNOSIS AND TREATMENT OF MALIGNANT DISEASE OF THE UTERUS.

Dr. Nigel Stark opened the discussion, and said—At the last meeting of the Society, I showed the specimen and read notes of a case of cancer of the body of the uterus, upon which I had performed vaginal hysterectomy. It was afterwards suggested that a more thorough debate might with advantage take place upon the subject of diagnosis and treatment of such cases, and, in opening the discussion, my duty is principally to indicate the lines upon which it may run.

Though our billet for this evening's meeting states that the discussion is on the diagnosis and treatment of malignant disease of the uterus, I think we should restrict ourselves to cancer, and meanwhile leave out of consideration sarcoma and deciduoma malignum. Further, we may employ the word cancer as denoting either proliferation into the deeper structures of the squamous epithelium of the vaginal portion of the cervix, or cylindrical-cell growth—the malignant adenoma which is really a glandular cancer. For clinical purposes we must distinguish between cancer in the cervical portion of the uterus and that affecting the body. The former, from its accessible and visible position and its more early local symptoms, is more readily diagnosed than the latter, but we are a long way from the general early recognition that we all desire.

I would ask the subsequent speakers to dwell on the following points as being worthy of consideration—(1) The relative frequency with which cancer attacks the cervix of patients who have suffered from laceration of that portion of the uterus during parturition, and who had afterwards been the subjects of erosion and cystic degeneration; (2) the best methods of making early diagnosis in such cases where appearances are deceptive; and (3) the value to be attached to microscopical examination of excised portions and of scrapings of uterine tissue in cancer both of body and cervix. From those who have paid attention to the subject we wish to know the speediest and surest methods of making microscopical examinations of such tissues, the fallacies which must be guarded against, and the true value of the examination as evidenced by the subsequent history of cases, especially such as have been of doubtful diagnosis, and where the treatment was determined by the results of the microscopical examination.

As regards the question of treatment, so far as cancer of the cervix is concerned, I think that most surgeons have decided that amputations of the cervix, whether vaginal or supravaginal, are useless and antiquated operations, and we need not discuss them. Most of us are resolved that in cases which seem suitable, whether the disease is corporeal or cervical, hysterectomy is the one operation, and we might profitably discuss the indications for and against operation, and the best methods of operation. In what direction does the infection usually spread; is it by the glands or by more direct continuity of tissue? A knowledge of the correct answer to this question will, to a large extent, influence our methods of operation. The belief is gaining ground that glandular metastases are not such important factors in the extension of uterine cancer as was formerly supposed, and that prolonged severe operations, entailing extirpation of the periuterine and lumbar glands, are both unnecessary and far too dangerous. Cancer of the cervix, especially when it originates within the canal, is very rapid in its growth, and spreads along the broad ligaments and into the tissues between the uterus and rectum and uterus and bladder. It is, therefore, very necessary to cut widely round the cervix, especially on the side which is most affected. According to Howard Kelly, this is best done by preliminary catheterisation of the ureters, a procedure which, as is well known, he strenuously advocates, for the reasons that otherwise the operator must either skin out the cervix for fear of wounding the ureters or else must spend so long a time in dissecting them out that feeble patients have their proximate chances of recovery sensibly diminished. This is followed by thorough curettage of the diseased area, afterwards cutting through the vagina on all sides far beyond the limits of disease, opening the utero-vesical pouch, if necessary cutting off the base of the bladder, and then opening into the recto-vaginal pouch. The uterus is next drawn down, bisected, and, first on the one side and then on the other, the body divided from the cervix and the vessels tied. The half cervix on the least affected side is then removed, and after that the most important stage of the operation is begun, consisting of extirpation of the remaining quadrant of the uterus by the widest possible dissection, even, if necessary, going so far as to cut off the ureter above the diseased area. These are, very briefly, the steps of an operation which must necessarily, from its thoroughness, give a better percentage of permanent recoveries.

If any Fellow has had experience of internal treatment by drugs, by serums, by animal glands or tissues, we shall be pleased to hear what has been the results; we shall welcome discussion upon the effects, good or bad, of "palliative" treatment in manifestly inoperable cases, in which scraping, cauterising, the application of formalin or other medicaments have been resorted to, and we would be pleased to know whether death comes more or less painfully to those who have not been operated upon, or to those upon whom operation has been unsuccessful, so far as permanent cure is concerned.

That a discussion upon the subject of cancer of the uterus is needed in our Society, must be apparent to all of us. There is a great army of suffering women in the United Kingdom, computed at 8,000 at the least, who are victims of this dread disease. From this army numbers are falling out daily, but its ranks are being daily recruited. We must all have been saddened by a perusal of the address given by Dr. Halliday Croom as President of the Obstetrical Society of Edinburgh in 1898. He declared that he had personally had charge of two hundred and sixty cases of uterine cancer; that only fourteen of these had fulfilled all the conditions necessary to justify hysterectomy with the expectation of success, and that "every one of these fourteen had died within the year, and in greater suffering than if they had been left alone." He asks this question—"Do women live longer lives, and die less painful deaths, if the uterus be removed, or if the disease be allowed to run its ordinary course?" And he answers—"For my part, I do not think that surgical interference is the better." And, again, he says—"Once a uterine cancer is recognised, palliative local measures and a happy euthanasia through morphia are the best solutions of the difficulty."

These are surely words of the blankest despair and the sheerest pessimism. They might well paralyse all efforts to grapple with this fell disease on the present lines, but we must believe that Dr. Croom, able and conscientious as he is universally recognised, has been peculiarly unfortunate, both in the stage at which he has seen his cases, and in the results of operation. Still, the subject requires more elucidation on many aspects, and I hope that some fresh rays of light, however feeble, may be shed upon its darkness as the result of this discussion.

Professor Murdoch Cameron first referred to two cases where a wrong diagnosis had been given by a skilled pathologist to two portions of tissue removed from the cervix, and submitted to the latter for examination. In the first case, the portions removed were reported to show no evidence of malignancy, and yet the woman died four months later;

while in the other case, where a report of malignancy was given, but no operation was undertaken, the woman two years later was apparently quite well. Regarding the partial operation, Professor Cameron mentioned two cases on which he had operated three and four years ago, and where he had simply removed the vaginal portion of the cervix. Examined the other day they seemed perfectly well. When there was a good portion of sound tissue beyond the growths, he saw no objection to simple removal of cervix. He preferred, however, the more radical operation. In performing the latter he used clamps always, and preferred them to ligatures. In inoperable cases, where there is much bleeding, he curettes, and applies a solution of pure camphor and carbolic to the part.

Dr. J. K. Kelly said that difficulty in diagnosis arose only in the early stages of the disease, and in these the difficulty could be met only by resort to the microscope. Cancer had a special structure, and the recognition of this, even without marked clinical signs, would justify a radical treatment. On the other hand, clinical signs without this were no sure indication of cancer, many other conditions presenting the classical symptoms. With regard to treatment, all were satisfied that the complete removal of the diseased part was essential. As the disease advanced, the problem before the surgeon necessarily became more difficult of solution. But in early stages there was no doubt that hysterectomy had been successful in many cases, and it was to be hoped that surgery would yet frther extend its reach. In very late stages, when total removal of the diseased tissue was impossible, the use of the sharp curette and cautery was sometimes followed by relief of the symptoms for a considerable time.

Mr. R. H. Parry believed in every surgeon being his own pathologist. He also thought that an operation on the lines suggested by Dr. Stark, in his closing remarks, was the one that would in the future give the best results.

Dr. G. T. Beatson said that while it was certain that many cases of inoperable carcinoma of breast were improved by oöphorectomy, he had never claimed, as suggested by Professor Cameron, that the latter operation cured cancer. As regards the effect of the operation on cancer of the uterus, he had only to say that, as far as he could judge, it did not arrest the progress of the disease. In certain cases he also approved of the removal of the vaginal portion, but he was opposed to such a radical operation as suggested by Dr. Stark. In conclusion, he spoke very favourably of the good effect of large doses of thyroid extract.

Dr. David Newman referred to the difficulty of diagnosis while the disease was in its early stage, and to the fact that very often the cases that clinically were difficult of diagnosis, could not be cleared up at first by a microscopic examination of portions of tissue removed. Finally, he remarked that cancer seemed to him to run a rapid course when it attacked the uterus; indeed, as a general rule, it might be said that the more active an organ was the more rapidly did cancer progress in it.

MEETING II.—7TH NOVEMBER, 1900.

The President, DR. ROBERT JARDINE, *in the Chair.*

I.—CASE OF ASCITES IN A FŒTUS CAUSING GREAT OBSTRUCTION TO DELIVERY.

BY DR. RICHMOND (PAISLEY).

Mrs. G., primipara, age 23, was confined on 6th September, 1900. On my arrival I found the left foot presenting; the os was nearly dilated to the size of a five-shilling piece. I waited until the os was fully dilated, and, under chloroform, I attempted to deliver, but found great difficulty in getting the legs to descend. With the assistance of Dr. Penman, and after long and persistent pulling, we got it far enough down to make out the cause of the obstruction, *i.e.*, ascites. This was opened into, and a very large amount of fluid escaped, after which the child came away very easily. The perineum was very badly ruptured, and was stitched up. She fevered up a bit, but ultimately made a very good recovery.

There was very great difficulty in making out the cause of the obstruction, as the passage was very narrow, and it was only after both legs were outside that the true cause was made out.

II.—NEW INSTRUMENTS AND THEIR USES.

By Dr. Jane B. Henderson.

The electrically lighted surgical appliances which are here this evening require very little explanation from me. They were made by the Electro-Surgical Instrument Co., of Rochester (New York), and I bought them from their representative in Toronto. As they are quite new, and have not yet been introduced to the medical profession in Great Britain, I thought you might be interested in seeing them. Some of the instruments appear to me to be more likely to be useful than others, but each one has claims of its own for special work in special cases.

The battery is a dry-celled chemical battery of four cells, the combined strength being 8 volts. The cells are self-recuperating, and can also be recharged. They are *guaranteed* for thirty hours' intermittent work. The rheostat controls the electric current, so that only the needed strength of current can be used. The current is strong enough to heat electric cautery points, but to use it for this purpose would the sooner exhaust it.

Instruments.—General diagnosis. Mouth lamp.—For examination of teeth, also for examining the nasal cavity, and for transillumination of the antrum of Highmore, and to assist in the examination of the accessory cavities of the nose.

Ear speculum (two sizes).—Notice the aperture left for the introduction of applications for treatment.

Nasal speculum.

Tongue depressor.—This would be extremely useful for cases of tonsillar abscess that require operation, and the patient has difficulty in opening the mouth.

Laryngeal mirror.

Universal attachment.—Can be applied to any instrument at any angle.

Urethral tubes.—Can be used for examination of the interior of the bladder and treatment of ulceration, &c., by local applications, also for exploration and catheterisation of the ureters. The tubes are made in various sizes, and the lamps remain cool, so that no difficulty need be experienced. The projecting spur is for a magnifying lens, called a megaloscope. The obturator in each case has a small groove on it to permit the entrance of air as it is withdrawn, and thus avoid all suction. The lamp attached is one-sixteenth of an inch, and the smallest light that has been made; it is equal to one candle power.

Rectal tube.—Exactly similar in construction, but of larger diameter. By the aid of the megaloscope the differential diagnosis of malignancy in cases of stricture can be made.

Vaginal speculum with lamp.—A detachable speculum, said to be of great convenience in examination and treatment of lacerations after parturition. It appears to me that the narrow tubes, intended primarily for rectal or cytoscopic examinations, might be very useful for vaginal examinations in cases where it is undesirable to introduce a speculum of ordinary size.

The lamps and all the various parts are so made that they can be disinfected by all ordinary methods without harm.

III.—DISCUSSION ON THE DIAGNOSIS AND TREATMENT OF MALIGNANT DISEASE OF THE UTERUS *(CONTINUED).*

Dr. Edgar said—It is only in the early stage of *cancer of the cervix* that there can be much doubt as to the diagnosis. At this time the only symptom is hæmorrhage. The age of the patient is not to be relied on, as, though cancer of the cervix is most common between 40 and 50, and that of the body between 50 and 60, I have met with it at the age of 26. All cases of uterine hæmorrhage, apart from normal menstruation, ought to be examined. Before ulceration occurs, the microscope must be brought into requisition. As the edge of the growth shows the most characteristic changes, a small wedge should be removed from this part and examined by some one who has experience in the pathology of the female generative organs. Evidence obtained by the microscope ought to be controlled by a careful clinical examination, and in cases of doubt the case should be watched for a time.

In *cancer of the body*, the uterus may be very little, if at all, enlarged. Reliance must be placed on the curette, unless a digital exploration of the uterus is practicable. When cancer is present, a large amount of friable tissue is brought away, which shows characteristic changes under the microscope. In one case, a lady, 65 years of age, the tissue removed from near the right cornu was a simple mucous polypus. This was two years ago, and there has been no recurrence of hæmorrhage.

Indications for radical operation.—The uterus may be mobile, and yet the case unsuitable, as evidenced by one case in which the bladder wall was infiltrated, and it was found impossible to separate the cervix from it. On the other hand, the uterus may be fixed by peritonitic adhesions, without cancerous infiltration of the parametrium. Such adhesions are not so unyielding and nodular as cancerous infiltration when a recto-abdominal examination is made.

Operations.—In advanced cases curettage is often of value. Most of my cases have been distinctly improved for some months. Oöphorectomy is of no use in cancer of the uterus. Let me quote one case in this regard:—Miss P., æt. 30, began to complain of bleeding and pain in September, 1898, was curetted in the Royal Infirmary in January, 1899, and had both appendages removed by the same surgeon in May, 1899. The bleeding and pain continuing, she came into the Samaritan, and I removed the uterus on 2nd December, 1899. There was cancer of the body, with infiltration of the right uterine wall up to but not, so far as I could judge, into the parametrium. In suitable cases hysterectomy is the operation of choice; but these are rare, because patients call on the general practitioner first, as a rule, and time is generally lost in attempting to control the hæmorrhage, without first ascertaining the cause of the hæmorrhage. Delay in cancer of the body is not so serious as in that of the cervix. For this reason I have performed hysterectomy (abdominal) five times for cancer of the body as against two (vaginal) hysterectomies for cancer of the cervix, though the latter is incomparably more common. Two of the former died as a result of the operation; the other three are still alive and free from recurrence, fourteen months, eleven months, and eight months since the operation. One cannot speak of cure till about five years have elapsed. The two cases of cervical cancer, which were both so far advanced that I operated only so that the patient might have the benefit of the doubt, died eight months and twenty-eight months after the operation. Both received distinct benefit.

Dr. W. L. Reid said that, with regard to the diagnosis of carcinoma of the uterus, while he thought the pathologist ought always to be appealed to, yet he would be disposed to lay fully more strain on clinical evidence. With ordinary experience of the disease and ordinary care in differential diagnosis, there is no difficulty in recognising carcinoma when it has existed for some time. It is in the early stage, when diagnosis is most important, that it is most difficult. Where there is a necrotic fibroid, or the retention of the products of conception, the history of the case usually clearly indicates its nature. Syphilitic ulcers, in Dr. Reid's experience, rarely give rise to difficulty of diagnosis.

Perhaps the most common and the most difficult case is where there is granular erosion of a split hypertrophic and ectropic cervix. If this does not give way directly to the thorough application of carbolic acid to the interior of the uterine cavity and the use of antiseptic douches, a thin slice should be cut out of the most suspicious part of the cervix and submitted to the pathologist. If the disease is confined to the interior of the uterus, the curette should be used with the same object. If the opinion given is unfavourable, one is justified in performing hysterectomy, rather than in waiting until the evidence comes to be beyond question. This seems to open the way for reckless removal of the uterus, but in this, as in many other situations, it must be a matter of conscience with the practitioner.

As to treatment. If the disease is malignant and confined to the interior of the uterus, hysterectomy is a hopeful operation. If it involves the cervix, it is less hopeful, but perfectly justifiable, if the disease has not extended to the cellular tissue around the cervix, and if the operation is done in a painstaking fashion.

With regard to the form of operation, the vaginal method is to be preferred, as less likely to infect the peritoneum. Ligature is better than clamping, as it enables one to cut farther from the disease without endangering the ureters.

If the uterine tumour is large, the abdominal route must be taken. If the case is beyond the reach of hysterectomy, much relief can be got from the use of the curette, followed by the application of chloride of zinc. The use of this caustic in stick form or in solution does not give the best results. If strips of lint are dried out of a saturated solution of chloride of zinc, they, backed by bicarbonate of soda lint, also dry, may be placed exactly where the caustic is wished, and left longer or shorter so as to produce the desired severity of action. In this way fœtor of the discharge may be entirely removed for a considerable time, and pain generally greatly relieved.

Dr. Samuel Sloan said that very early diagnosis could hardly amount to more than a suspicion of cancer. He preferred, whilst telling the pathologist where the tissue came from, to say nothing that might bias his judgment. If his conclusions were positive, Dr. Sloan would consider his diagnosis as practically settled. If the pathologist were uncertain, he would delay for further examinations. In his own experience the pathologist had always been right. In the early stages, a section should be given; in the later, scrapings might suffice. He thought it should be borne in mind that hardness and pain were late symptoms. The hæmorrhage, which was perhaps the only indication, should be treated as simple. If this treatment—in his hands drying the part and pressing into the tissues liquid carbolic acid—should fail to arrest this sanguineous discharge, he should apply to the pathologist early. The relation of the loss of the general health to the *obvious* cause is a determining point. Smell is a late symptom, though earlier in cervical than in corporeal disease. He has known discharge to be perfectly sweet for many months after the onset of the disease in the latter. In curettage, the dilatation will be more difficult after infiltration, and easier than normal where the disease is limited to the glandular tissue. He was surprised to hear Dr. Edgar say that he found corporeal disease in a small senile uterus. He (Dr. Sloan) had curetted a few days ago for senile uterine catarrh, and had decided in favour of its non-malignancy on account of the reduced size of the uterine cavity—2¼ inches; his experience being that in adenoma malignum the uterus was enlarged in spite of the advanced age of the patient. The larger the amount of the scrapings, he thought, the greater the likelihood of malignancy. As to the radical operation, he thought if the disease were limited to the cervix, supra-vaginal amputation was preferable. He thought the danger of complete extirpation lay in exposing the peritoneum to the risk of contact with cancerous material. He thought Dr. Stark's method of removing the ovaries and tubes attached to the uterus was preferable to leaving them behind, or to removal of them after separation of the uterus. As to the palliative treatment, he thought thorough curettage, followed by a free application of Paquelin's cautery, a good method. This removed more effectively the deeper layers of diseased tissue, and left a less septic surface. He had found the Paquelin cautery very satisfactory for the partial removal of a large cancerous mass of the cervix. He had no experience of saturated solution of chromic acid in uterine cancer, but he had found it very satisfactory in a small cancerous affection of the vulva. Dr. Sloan thought that there might be degrees of intensity of malignancy, as there is of sepsis, and that where the history pointed to very slow growth of the disease in a patient well advanced in years—as in a possible case of the disease which he had seen a few hours before—he thought it might be well to interfere in such cases as little as possible.

Dr. M'Bryde said—In the early diagnosis of cancer I wish to emphasise the fact that the age of the patient ought not to blind us to the possibility of cancer of the uterus. Given a case of persistent uterine hæmorrhage, even in a patient under the age of 30, cancer of the uterus ought to be considered. General practitioners are very liable to overlook this. On the day previous to the meeting of the Obstetrical, a doctor called on me at the Royal Infirmary about a case of excessive uterine hæmorrhage, which he would like admitted at once, as it was urgent. He told me that the bleeding had been present off and on for a year, and that all he could make out by examination was an erosion of the os. He considered it probably due to some unhealthy condition of the endometrium or the presence of a small polypus. When I expressed the possibility of cancer, he said "No" emphatically, giving as his principal reason the fact that the patient was only 28 years of age. I explained to him that I had seen at least five cases of advanced cancer of the cervix in women under 32 years of age. The case was admitted at once. On examination a very suspicious erosion of the cervix was found, the tissue underneath being very friable. As the bleeding was extreme, it was decided to explore the interior of the uterus at once, and curette. The whole of the cervix and body of of the uterus was found to be converted into very friable cancerous tissue. This case seems to me to show how necessary it is that general practitioners should keep before their minds the possibility of cancer in all cases of hæmorrhage from the uterus, even in *young* females.

Dr. Richmond (Paisley) described the following case:—Mrs. H., age 37, widow, consulted me about the end of February, 1888. She was suffering from a severe loss of blood, &c. On examination,.I found her vagina very well filled with a large friable growth, which bled on being touched. I diagnosed this as an epithelioma of the cervix, and this was confirmed by the late Dr. Turner, who saw her with me at the Western Infirmary Dispensary. He advised me to thoroughly curette the whole mass, and apply pure nitric acid to the cervix. On the 4th March, 1888, along with Dr. Frank Shearer, this treatment was carried out, and in about a month or so afterwards it was repeated. She made a good recovery, and had no return of the affection. There was no doubt in the minds of any of the three medical men as to the nature of the disease. Shortly after this she got married, and on the 30th of September, 1893, I delivered her of a live child. This was the only child she had, and at the time of the birth there was nothing unusual observed with the cervix.

She was admitted to the Paisley Infirmary on 19th August, 1900, and the report in the journal then states that two days later abdominal section was performed. A large multilocular papilomatous cyst, several of whose compartments had burst into the abdominal cavity, was removed. There was also a great quantity of ascitic fluid withdrawn. She recovered from the operation, and left the hospital on 13th October. She died nine months later.

The *President* said that, before calling upon Dr. Stark to reply, he would like to say a word or two on the question from an obstetrical point of view. In one of the recently published books on midwifery it was stated that cancer of the cervix was often found in pregnancy. This had not been his experience. In one way or another he had had to deal with a good many thousand confinement cases, and he had never yet seen a case complicated with cancer. The year before last there had been one in the out-door department of the hospital, but it had been transferred to one of the infirmaries before he knew of it. In upwards of 50,000 labours in connection with the hospital there had only been one case. The association of pregnancy with cancer must be rare.

He thought that if the case were seen early in pregnancy, total extirpation of the uterus ought to be done. If it had gone to full time, and there was any obstruction to delivery of the child, a Cæsarean section ought to be done in the interest of the child. Whether or not the uterus should then be removed would depend upon the extent of the disease and the condition of the woman. Her days would likely be numbered, and he did not think a Cæsarean section would shorten them any more than a craniotomy, and it would be worth doing the former to save the life of the child.

Dr. Stark, in reply, said that he thought all must agree that in the early diagnosis reliance must be placed in the pathological report, and that the treatment to be adopted was to remove the uterus as early as possible. As regards preventive treatment, he thought erosions and lacerations of the cervix should be carefully treated.

GLASGOW EASTERN MEDICAL SOCIETY.

SESSION 1900-1901.

MEETING I.—17TH OCTOBER, 1900.

The President, DR. DAVID YOUNG, *in the Chair.*

PRESIDENTIAL ADDRESS: "HEADACHE."

BY DR. DAVID YOUNG.

The President, at the outset, remarked on the difficulty of discussing headache by itself, but owing to its importance as a feature of human suffering, thought he might be excused for giving it a little separate attention.

Considering the strain which the necessities of modern life have put upon men and women of the present day, the marvel is not that the brain should periodically ache, but that it is not oftener the seat of organic disease.

In considering the causation of headache, it was pointed out that the brain itself, when subjected to direct irritation, gives rise to no feeling of pain—it is only when it is excited through the medium of peripheral nerves that the sensation of pain is felt in the sensorium.

The condition of the brain in anæmia and hyperæmia was considered, the changes in the vessels being associated with the amount of cerebro-spinal fluid; when this is in excess the vascularity is slight, when it is diminished the turgesence is increased. Dr. Lauder Brunton's view that headache is due to a general and a local condition was alluded to, the general condition—imperfect nutrition or disordered nutrition—rendering the patient liable to pain, the local condition determining that the pain should affect the head rather than another part. Headache is very common in imperfect nutrition, such as anæmia, and still moreso in disordered nutrition, as albuminuria.

With respect to the pain of cerebral anæmia, he considered it important to remember that the brain in health receives a fifth of the whole blood in the body; hence, if this vascular supply be much diminished the functions of the brain continue no longer active, and when the blood-supply remains long deficient, headache, confusion of ideas, petulance, and irritability of manner manifest themselves. The striking feature of cerebral anæmia is pain at the top of the head, which is persistent in not quitting the vertex, though it may also spread to one side or other. Headache succeeding cerebral hyperæmia was then referred to, the author stating that when headache frequently succeeds cerebral hyperæmia from active exertion or muscular effort, we may infer that the nerve centres are excitable, if they are not positively unhealthy. The treatment advised in a severe plethoric headache was cold to the head and sharp purging.

In considering sympathetic headache, Dr. Young remarked that it has been demonstrated that, in some cases at least, as a result of deranged gastric function, toxins are absorbed which, circulating in the blood supplying the nerve centres, may produce headache. In point of fact, it is now considered that most headaches are in reality toxæmic. What is usually called "bilious headache" is now recognised as being truly toxæmic: the liver being deranged, is unable to prevent the deleterious substances which pass into the intestinal vessels from the intestine from being absorbed into the general circulation. The local determining cause of the headache is in many cases irregular vision. For bilious headache, calomel and jalap are given with benefit, with a poultice over the stomach, and if vomiting is a marked symptom, drinks of warm water with soda bicarbonate in it.

The symptoms and pathology of migraine were then spoken of, and its tendency to be hereditary remarked upon. As regards treatment, in addition to external remedies (A.B.C. liniment, ext. belladonn., sulphuric ether or ethyl chloride spray), a mixture of pot. bromid. and sod. salicyl. seems to mitigate the attack if given when there are premonitory symptoms. A combination of antipyrin, phenacetin, and caffein citrate was useful, or, if this failed, antifebrin and caffein. These drugs ought always to be given before the headache becomes too severe, while gastric absorption is active, or otherwise they are not effective. Antikamnia he did not prescribe, as he found it very depressing.

What is often called a nervous headache he believed to be a mild and more diffuse form of migraine. The delicate and the robust are equally liable; worry and anxiety are amongst its most fertile causes, and want of balance between the mental and physical organisation seems to determine it.

In regard to the treatment of headaches generally, aperients he looked upon as of the greatest value as a preventive when an attack is feared; but whatever treatment is decided on, rest is of the utmost importance, the brain when excited requiring quiet and repose as much as any other part.

On the motion of *Dr. Couper*, Dr. Young was accorded a hearty vote of thanks for his address.

MEETING II.—7TH NOVEMBER, 1900.

The President, DR. DAVID YOUNG, *in the Chair.*

DISCUSSION ON HYSTERIA.

Dr. T. C. Barras, in opening the discussion, said we were compelled to admit that hysteria is a disease, but that in answering the question, What is hysteria? there was some difficulty. The definitions of the disease as given in the text-books of Bristowe, Gowers, and Osler were quoted in illustration of this. In regard to etiology, while hysteria was more common in the idle and the wealthy, it was also frequently met with among the working classes. The influence of sex is seen in its affecting females principally, being twenty times more frequent in women than in men. The name given to the disease shows that this was known to the ancients. Dr. Barras considered that the liability of women to hysteria is determined by the state of their nervous system, although the generative organs have an important part in the causation, sexual excesses and masturbation being of considerable moment as etiological factors. Hysteria, when it occurred in women at the menopause, was, in Dr. Barras's experience, accompanied by uterine disease. Heredity he considered not at all a necessary element in the etiology. An account of five cases was given as examples of the disease. The first was a case of hemianæsthesia in an unmarried women, 36 years of age, who lay in bed for weeks, and could neither eat nor sleep. There was complete anæsthesia of one side of the body, including the face. The cause ascribed was grief and worry—she had been disappointed in love. The patient recovered, but could not be persuaded to go out of doors for months. The second case was that of a married woman, who had persistent vomiting, with loss of flesh. A swelling appeared under the ribs, and gave rise to a suspicion of malignant disease, but the tumour disappeared in a few days. It was no doubt a local contracture of the diaphragm. A case was related of a woman who had the usual symptoms of pregnancy, and symptoms simulating labour, which were entirely due to hysteria. There was no pregnancy. In another case, an unmarried woman with a uterine myoma, there were hysterical outbursts, with abdominal pain, the excitement lasting for four or five days. The fifth case was one of hyperæsthesia in a married woman of 30 years. There was pain over the left ovary, and over the temple, with twitching of the eyelids. Nothing abnormal was found about the womb, but the pain seemed to originate in the clitoris. Since the death of her husband all her symptoms had disappeared.

Dr. Alex. Robertson said he had seen many cases of hysteria in the male. In these cases there is a tendency to mental disturbance. In speaking of methods of treatment he referred to the striking effect of the cold douche over the head, and mentioned a case of hysterical aphonia, in which electrical treatment failed, where pouring canful after canful of cold water on the head succeeded. In another case, where there was anæsthesia of both lower extremities, the Weir-Mitchell treatment proved effectual. Hypnotism he had used in a number of cases. He related the case of a woman who had loss of power in the legs, with anæsthesia, and in whom massage had been tried previously without success. She was hypnotised four times, and though unable to walk before, was able in a few weeks to be out. Hypnotism he reserved for cases in which everything else failed.

Dr. L. R. Oswald said that hysteria is really a neurasthenia with an initial nervous defect, an initial condition of inherited instability of the nervous system, differing in this way from emotionalism. He pointed out that hysteria and insanity are not the same thing; in hysteria the highest senses are not involved, in cases of hystero-epilepsy the moral sense is perverted. He gave instances where self-mutilation was practised. As regards treatment, the danger of hypnotism is as great as the disease it is intended to cure. The intellectual power is weakened, and the last condition of the patient is worse than the first. Enforced isolation he looked upon as one of the best modes of treatment. Cold affusion he did not use, as it was looked upon as a punishment by the patients.

Dr. Munro Kerr considered that there was no connection between hysteria and diseased conditions of the pelvic organs. In two of the most striking cases of hystero-epilepsy which he had seen, there was not the least trace of disease of the ovary or uterus. In support of this statement he instanced the failure which resulted from excision of the ovaries for relief of pain over that region. Further proof that diseased conditions do not cause it is obtained from the value of hypnotism in the treatment of these cases. In cases of hysteria where there is disease of the pelvic organs, it is really more a coincidence than anything else.

Dr. J. W. Allan pointed out that the disease was not confined to inhabitants of towns, and mentioned a very aggravated case he had seen of a girl living in a lonely centre in the Highlands, in close touch with nature, and not in the society of others. He stated, also, that hysteria is not unknown in barbarous nations. Malays are, as a race, liable to hysterical outbursts, and amongst Zulus hysteria is very common in girls. Hysteria may be superimposed on disease, as is sometimes seen in cases of enteric fever, where it is of unfavourable omen. He gave an account of a case where enteric fever was suspected, but where there was no clear indication of it. The patient, a nurse, behaved in a remarkable way, suggestive of hysteria. She died, and at the *post-mortem* typical ulceration of Peyer's patches was seen. He thought that one should be very cautious in dealing with hysterical cases, not to adopt any treatment of a harsh kind, as, with hysteria, there might very possibly be a real disease.

Dr. Burras, in reply, said he had little faith in hypnotism in the treatment of hysteria. Want of restraint in early life was, he thought, one of the most important predisposing causes. He considered there was a close connection between the generative organs and hysteria. He had not seen a single case in a man in which he could not find a history of masturbation. Hysteria may complicate other diseases; it is an illness, and must be treated as such.

REVIEWS.

The Early Days of the Royall Colledge of Phisitians, Edinburgh. The Extended Oration of the Harveian Society, Edinburgh, delivered at the 114th Festival by the President, ROBERT PEEL RITCHIE, M.D. Edin. Edinburgh: George P. Johnston. 1899.

THIS is a laborious and detailed history of the Royal College of Physicians of Edinburgh, full of matter interesting to the medical antiquary, but on that very account containing a great deal of information of little interest to the general reader. The learned author is most obviously deeply enamoured of his subject, and fully impressed with the dignity of his College. His attempt, however, to drag in the name of Harvey as a potent influence in the foundation of the Edinburgh College strikes us as being one of these amiable weaknesses to which well-meaning historians are sometimes liable. The history would have been far better had the author resolutely determined to leave the name of Harvey out of it altogether. Its constant recurrence throughout the pages gets on the reader's nerves like King Charles' head, the more so as Harvey was dead at least twenty years before the college was founded, and as efforts to found a college had been going on from 1617, a period long before Harvey was recognised as a pioneer in the medical art. Having carefully considered the author's arguments on this point, we unhesitatingly come to the conclusion that William Harvey had nothing to do either directly or indirectly with the foundation of the Edinburgh College of Physicians. If the author could have shown that an attempt had been made to obtain Harvey's influence for the foundation of the College in 1633, when the great anatomist visited Edinburgh in the train of King Charles I, he would have established a strong presumption in favour of the truth of his thesis. But Harvey, during this visit, seems to have been far more interested in the "sea-birds" of the Bass Rock than in the efforts of the Edinburgh physicians to found a college. After all, the history of the foundation of the college is very much like the history of the origin of other corporate bodies. The promoters had to fight against vested interests, and ultimately to obtain the powerful influence of the court physician, Sir Charles Scarborough, "and to Sir Charles the schemers determined to go" (p. 55). There is a delightfully quaint, though perhaps unintentional humour, in this short sentence. To call these "earnest, determined, and resolute men," animated by the scientific spirit and devotion of Harvey, "schemers," and to speak of "the chief schemer, Sibbald," must either be humour, or quite out of place in a work so serious as the present. So much for the connection of Harvey with the Royal College of Physicians, Edinburgh.

The work, as a whole, consists of five parts:—Part I, The Epoch of William Harvey—The Medical Institutions of his time in England, Ireland, and Scotland. Part II, A Colledge of Phisitians in Scotland—The Four Attempts to Found it in 1617, 1630, 1657, and 1681. Part III, The Early Days of the Royall Colledge—The Original Fellows and their Attendance

— The Four Efforts for Professional Advancement — The Pharmacopœia — The Dispensary — The Examination for License—The Medical Conference. Part IV, The First Knights —Sir Archibald Stevenson, M.D.; Mr. Andrew Balfour, M.D.; Sir Thomas Burnet, M.D.; Sir Robert Sibbald, of Kipps, M.D. Part V, Afterwards—The Progress of the Medical School of Edinburgh University.

From this account of the contents it will be seen that a vast amount of labour has been expended on the compilation of the work. The volume is a fine example of the publisher's art, and the portraits add greatly to its value.

Essentials of Surgery. By EDWARD MARTIN, M.A., M.D. Seventh Edition, Revised and Enlarged. London: Henry Kimpton. 1900.

THIS book forms one of a series—the "Essential" Series—published by Kimpton, and has now reached a seventh edition.

It is perhaps better known to students on the other side of the Atlantic than with us, but it deserves a wider circulation, as it gives a very good summary so far as it goes of up-to-date surgical opinion and treatment.

It is in the form of questions and answers, and attempts at giving a little of everything. Not the least valuable is the appendix, which contains "full directions and prescriptions of the various materials used in antiseptic surgery, also several hundred receipes, covering the medical treatment of surgical affections."

For the student principally this book is intended, and for the student at a particular stage of his career, going up for the final examination.

If one chose to be captious, the book is not without its faults—the fault of a too rigid abbreviation. It implies a considerable amount of previous knowledge, for, in many instances, the name of an operation or of a particular line of treatment is alone indicated. Then the index might have been fuller. Take, for example, the operation of colotomy; there is no mention of it in the index. The only reference that could be found was the mere allusion to the fact that "inguinal colostomy" might be required in malignant stricture of the rectum, and that "inguinal colotomy" might be necessary in a fibrous stricture of the same region.

No mention whatever is made of affections of the stomach, of ulcer, or of pyloric cancer, or of affections of the gall-bladder, or of affections of the kidney. Some knowledge of these would certainly be considered essential at an examination, and should have been included.

A Manual of Surgery, for Students and Practitioners. By WILLIAM ROSE, M.B., and ALBERT CARLESS, M.S. Third Edition. London: Baillière, Tindall & Cox. 1900.

As the second edition of this popular work was reviewed in our pages so recently as March, 1900, and, as comparatively little alteration has been made in the present, it is sufficient if we simply inform our readers of the publication of the third.

Diseases of Women: A Treatise on the Principles and Practice of Gynecology, for Students and Practitioners. By E. C. DUDLEY, A.M., M.D. Second Edition. London: Henry Kimpton. 1900.

THE first edition of this work was reviewed in the *Glasgow Medical Journal*, vol. li, p. 451. The present edition has been considerably enlarged. Seventy-eight pages of reading matter have been added, and the illustrations have been supplemented by thirty-one diagrams and six full-page plates. The former division of the subject into I, General Principles; II, Inflammations; III, Tumours, Malformations, and Tubal Pregnancy; IV, Traumatisms; and V, Displacements and Pelvic Massage, has been retained; and a sixth part, on the Disorders of Menstruation and Sterility, has been added. The whole book has been revised, and many of the paragraphs rewritten. Some of the chapters, especially those on Cystitis and Diagnosis, have been much enlarged. As a result, the present edition may be recommended as an improvement in many respects on the first.

Electricity in Gynæcology. By RICHARD J. COWEN, L.R.C.S.I., L.R.C.P.I. London: Baillière, Tindall & Cox. 1900.

THIS small work of 132 pages is divided into four chapters. The first three treat of the necessary apparatus, the various methods of application, and the effects of these. The fourth, which comprises the latter half of the volume, is devoted to the electrical treatment of the various diseases *seriatim*.

The author is an enthusiast. According to him, nearly all the diseases peculiar to women, including even pyosalpinx, can be, and ought to be, cured by galvanism or faradism. The subject of gynæcological diagnosis is only slightly discussed, but, in several instances in which reference is made to it, errors occur, such as the remark that in endosalpingitis "one of the most characteristic symptoms is the occurrence of a glairy discharge, like white of egg."

We certainly do not think with the writer that his manual should be taken as a guide by the general practitioner; on the other hand, the gynæcological specialist might gather some useful hints in electro-therapeutics from a judicious perusal of the work.

The Goulstonian Lectures on the Typhoid Bacillus and Typhoid Fever (1900). By P. HORTON SMITH, M.A., M.D. Cantab. London: J. & A. Churchill. 1900.

IN his Goulstonian lectures, Dr. Horton Smith has given the profession a masterly exposition of the bacteriology of typhoid fever, an exposition whose value to the practitioner is greatly increased by the practical and clinical applications which pervade it throughout. In saying this, we in no way detract from the purely scientific value of the work. What we mean to convey is, that the lectures have been written, not merely by a skilled bacteriologist, capable himself of carrying out the delicate experiments on which his teaching is based, but also by a physician capable of applying the experimental results to the elucidation of clinical details.

The first lecture deals with the identification of the typhoid bacillus, its toxines, and its distribution in the body. The conclusion at which the lecturer arrives, although not new, is new enough to be quoted here. "Any conception of the disease which regards it merely as affecting the alimentary canal, can no longer be maintained. On the contrary, so far from considering it as an intestinal disease pure and simple, we should rather look upon it as a *modified form of septicæmia*." Such is the teaching of bacteriology with regard to the essential nature of enteric, and, with such teaching, most clinical physicians will be inclined to agree.

The second lecture deals chiefly with the relapses and complications of enteric, and their relationship to the organism, and of special interest and importance are the author's observations on typhoid bacilluria and cystitis. The outcome of these is to press home the truth that the urine is as infective as the stool.

The last lecture gives an exhaustive account of the agglutinating reaction in enteric, and concludes with a note on the value of urotropin in disinfecting the urine in enteric fever.

We commend everyone who desires to keep himself abreast of the times, as regards the etiology and treatment of typhoid fever, to carefully study these lectures.

Synopsis of the British Pharmacopœia, 1898. Compiled by H. WIPPELL GAD. Fifth Edition. London: Baillière, Tindall & Cox. 1900.

BARELY a year has elapsed since the publication of the last edition of this work, and as the only change we have discovered in the new issue (apart from the preface) is the addition of a few lines on the last page on the subject of "indicators," we may take it that the demand for the book continues. Over 6,000 copies of the work have been sold, and this is not surprising when we consider how convenient it is to carry constantly in the pocket.

The New Zealand Medical Journal. Published by the British Medical Association (New Zealand Branch), Wellington, N. Z. Vol. I—No. 1, August, 1900.

WE have received the opening number of the above *Journal*, and while we cannot but feel glad that the medical profession in New Zealand has determined to again be represented by an organ of their own, we must, at the same time, express the hope that in future numbers we shall have more space devoted to the reporting of cases.

The first article is the presidential address delivered by Dr. Thomas to the New Zealand Branch of the British Medical Association in February of the present year. It deals with a subject interesting alike to home and colonial practitioners, viz., the relation of the profession to the public. The article takes up, among other points, questions such as remuneration, ethics, and professional jealousy, and we would venture to assure Dr. Thomas that some of the evils he complains of are not unknown in the old country.

Next follows a paper by Dr. Colquhoun, of Dunedin, on the subject of state institutions for inebriates, epileptics, and consumptives. This is briefly but well set forth, and will, we hope, command the attention it deserves.

We then have a short paper on empyema of the antrum of Highmore, illustrated by two cases; records of two cases of monstrosities; and, lastly, an article on cancer, by Dr. Mason. Dr. Mason holds gloomy views with regard to the recurrence of sarcoma, and evidently has not given up the use of Coley's fluid.

Editorials and current topics occupy the next few pages, while an extended report of the branch meeting of the British Medical Association occupies the latter half of the *Journal.* In the obituary, we notice the name of Dr. William Stewart, a graduate of the University of Glasgow of the year 1854. Dr. Stewart, who was a native of Rothesay, practised latterly in Oamaru, N.Z., and died in Sydney subsequently to an abdominal operation.

We wish a successful future to this new enterprise of our more than professional brethren across the seas.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

DISEASES OF THE THROAT.

By JOHN MACINTYRE, M.B., C.M., F.R.S.E.,

Sarcoma of the Naso-pharynx Cured by Injections of Formalin.—Dr. John A. Thomson, of Cincinnati, reports a case of sarcomatous tumour, the point of which sprang from the posterior wall of the naso-pharynx. Blood was oozing from the nose and mouth. The patient was confined to bed with a pulse of 120, a temperature of 101°, and was semi-comatose; the right ear was also suppurating. Twenty-five minims of a one half per cent solution of formalin was injected into the growth, which caused a considerable amount of pain of short duration. Two injections were given per week, and part of the tumour, during the period of injections, was removed by post-nasal forceps. Treatment was continued, and the case kept under observation from April, 1899, until March, 1900. At the last visit there was no growth in the throat, and the patient was able to resume work. In July of this year there was no recurrence.—(*Laryngoscope*, September, 1900.)

Nasal Hydrorrhea.—Dr. Bernard Berens, of Philadelphia, reports a case in which he used fresh solutions of suprarenal extract, applied with cotton wool, allowed to remain in the nostrils for five minutes. Five grain tablets of the extract were afterwards ordered to be taken internally, instead of the local treatment, and after three days the discharge entirely ceased. A slight recurrence took place three weeks afterwards, when the same remedy was applied, with an equally satisfactory result.—(*Proceedings of the American Laryng., Rhinolog., and Otol. Society*, 1900.)

Laryngeal Tuberculosis.—Dr. Louis Vacher, discussing this affection, recommends, in the treatment of ulceration, the curette, cauterisation, the application of caustics, and topical remedies. After trying various things, he speaks well of intra-tracheal injections in the form of iodoform with ether to saturation 100 parts, guaiacol 5 parts, eucalyptol 2 parts, and menthol 1 part; he progresses up to two cubic centimetres. He thinks it important that the active principles should be carried by the ether into the respiratory tract generally.—(*Proceedings of the American Laryng., Rhinolog., and Otol. Society*, 1900).

Malignant Disease of the Larynx.—Dr. D. Bryson Delavan, of New York, in a paper read before the American Laryngological Association this year, enters upon a consideration of the statistics of the operations for the relief of malignant disease of the larynx. He has made most careful analysis of the tables of other writers, referring particularly to Powers, Schmiegelow, Sendziak, and Wassermann. Chiari's tables have also been most carefully investigated, and he discusses the results of total extirpation, partial extirpation, and thyreotomy. He considers the possible errors in all these tables, and he enters most fully into a consideration of each. The advantages of the last mentioned operation are brought out by some striking figures, showing a great increase in the percentage of recoveries over any other method. Dr. Bryson Delavan makes the following statement:—"There is one class of laryngectomies not yet mentioned in this paper that have lately been attempted, namely, removal of the entire larynx, together with the connecting tracheal lymph nodes. While this may be in accordance with generally accepted surgical principles, the writer has yet to hear of a single case, either in this country or elsewhere, where the patient thus operated upon has recovered."

His paper is worthy of careful consideration by those interested in the early detection of malignant disease in this region, and the best method of operation for relief.— (*Journal of Laryngology*, September, 1900.)

PATHOLOGY.

By Dr. A. R. FERGUSON.

Morbid Conditions caused by Bacillus Aerogenes Capsulatus.—Dr. Wm. H. Welch (Johns Hopkins University) gives a comprehensive *résumé* of the properties of the above organism, first described by him in 1891, and of the conditions with which it is associated in the human subject. With regard to nomenclature, attention is called to the fact that the Bacillus aerogenes capsulatus of Welch and Bacillus phlegmones emphysematosæ described by Fraenkel are identical.

The following is a summary of the characters possessed by the organism:—

1. It possesses a capsule, as the name implies.
2. Spore-formation is observed frequently on certain media—agar containing sodium formate, or blood-serum—but this appears to be rather variable.
3. Gelatine is slowly liquefied.

4. The organism stains by Gram's method, although in film preparations many of the bacilli are decolorised by this method. In the tissues, however, they stain well by Gram.

5. Lactose, glucose, and saccharose are all fermented by the bacillus, with formation of relatively large quantities of gas. The gas has no foul odour.

6. Gas is abundantly produced in blood and tissues of animals which have received, a few minutes before being killed, intra-venous injections of the bacillus. This property is not possessed by the colon bacilli.

By means of these and other features it may be distinguished from the bacillus of malignant œdema, though, like the latter, the organism is an anaërobe.

It appears to be widely distributed, occurring regularly in the soil, and in the intestinal canal (rabbits, dogs, swine). Also found in wounds, in association with tetanus, and in traumatic emphysematous gangrene. Its presence in the course of ordinary cadaveric decomposition is well known; it occurs also, however, in cases in which "gas-bubbles" are found in the blood and organs within a few hours after death, and without any trace of ordinary putrefaction.

It is frequently observed in autopsies on pregnant and puerperal women, especially if associated with sepsis.

Indeed, in many septicæmias of intestinal origin, the organism is present throughout the blood-stream.

The term "foamy organs" is applied to the condition of the viscera seen *post-mortem* (most typically seen in the liver).

It is probable that the entrance of the bacillus into the blood-stream, and the development of gas in various situations, are phenomena which occur a few hours before death in the majority of cases.

There certainly appears to be little doubt, on experimental grounds, that comparatively large quantities of gas may be present in the blood (having been *slowly* introduced) without danger to life.

Dr. Welch is inclined to believe that the majority of cases of "emphysematous gangrene," or "progressive gangrenous œdema," are caused by the organism in question, and not by the bacillus of malignant œdema.

In passing under brief review forty-six cases of this condition associated with the presence of the bacillus aerogenes capsulatus, he remarks that in all but five the emphysematous gangrene followed traumatism or a surgical operation.

Dr. Welch emphasises the comparatively frequent occurrence of the organism in cases of puerperal sepsis where death has rapidly followed the development of gas in the vagina, uterine wall, peritoneum, and blood-current.

The Bacteriology of Bronchitis.—This paper, by W. T. Ritchie (*Journal of Pathology and Bacteriology*, vol. vii, No. 1, December, 1900), has for its object the ascertaining, if possible, what are the bacteria causing acute bronchitis.

Assuming that the bronchi are normally sterile, the author asks which of the bacteria found in the bronchi or in the sputum in cases of bronchitis may be regarded as etiological factors? Information on this point was sought for by examining the bronchi of children dead from acute bronchitis.

Method.—After removal of lungs from the thorax, their pleural surface was first washed with 95 per cent alcohol, and then for about half a minute with 1 in 2,000 solution of $HgCl_2$. A broad knife, previously brought to a red heat, was next passed several times over the surface to remove surplus moisture, and the lung was then incised with a sterilised knife. Two loopfuls of the secretion from the smaller bronchi were then placed in ½ cc. of sterile bouillon in a test-tube, and thoroughly mixed. From this cultivations were made by stroke method (1) on agar in a Petri's dish, (2) on Pfeiffer's agar, (3) on sloped Löffler's blood serum in a test-tube.

Cover-glass preparations were also made direct from the secretion, and were stained (1) by Gram's method, with dilute alcoholic fuchsine solution as counter-stain; (2) with Löffler's methylene-blue solution; (3) for tubercle bacillus, either by Ziehl-Neelsen's or Weichselbaum's method.

In all, 49 cases were examined, and pathogenetic bacteria were in every instance found in considerable amount, with the exception of six cases, where the bacteria which had caused the disease had probably lost their vitality by the time the bacteriological examination was made. In these six cases, too, bacteria had been seen in the cover-glass preparations. He summarises as follows:—

1. Acute bronchitis is an infective disease.
2. It is not due to any specific micro-organism, various bacteria being found in the bronchitic secretion.
3. Some of these bacteria are exciting causes of the bronchitis.
4. The disease is more often due to mixed infection than to the action of one form of bacterium alone.
5. The most important causal bacteria are *diplococcus pneumoniæ* and *streptococci*.
6. The influenza bacillus not infrequently causes bronchitis, apart from epidemic influenza.—G. H. E.

Toxicity of the different specimens of the Bacillus Coli Communis, obtained from different sources.—The different specimens of the *B. coli* experimented with include (*a*) four different specimens from the Continent—*B. Neapolitanus*, *B. cavicida*, and two called *B. coli* from Munich and Paris respectively; (*b*) specimens from the intestinal mucus of man, rabbit, and guinea-pig; (*c*) specimens isolated from the dejecta in epidemic diarrhœa, infantile diarrhœa, and from dejecta in diarrhœa epidemics in different parts of the country; (*d*) from suspicious oysters; (*e*) from water; (*f*) from fæces or sewage; (*g*) from suspicious milk; (*h*) from abscesses in the human body.

The cultures were grown in two ways, viz., on gelatine or agar for about a couple of days, and in peptone broth for about the same time. The greatest and most rapid effect was produced when the micro-organism was introduced into the peritoneum; the same effect, delayed, when into the veins. A large dose injected subcutaneously was required to produce the same effect. The animals experimented upon were rabbits and guinea-pigs.

A considerable number of examples of the bacillus acted like harmless water organisms. This was especially remarked in examples from suspicious water, from sewage, and from fæces. The explanation which the author favours is that, grouped under the heading *B. coli*, we really have different species of organisms, and that *toxicity* is the specific distinction separating the members of the group into at least two species.—(Vincent Dormer Harris, *Journal of Pathology and Bacteriology*, vol. vii, No. 1, December, 1900).—G. H. E.

Books, Pamphlets, &c., Received.

The Australasian Medical Directory and Handbook. Edited and Compiled by Ludwig Bruck. Fifth Edition. Sydney: L. Bruck. 1900.

First Aid to the Injured, with Special Reference to Accidents occurring in the Mountains, by Dr. Oscar Bernhard; Translated from the German by Michael G. Foster, M.A., M.D. Cantab. London: T. Fisher Unwin. 1900. (2s. 6d.)

Fractures, by Carl Beck, M.D., with an Appendix on the Practical Use of the Roentgen Rays. 178 Illustrations. Philadelphia: W. B. Saunders & Co. 1900. (15s. net.)

Lectures upon the Principles of Surgery, by Chas. B. Nancrede, A.M., M.D., LL.D. Illustrated. Philadelphia: W. B. Saunders & Co. 1899. (10s. 6d. net.)

Clinical Examination of the Urine and Urinary Diagnosis, by J. Bergen Ogden, M.D. Illustrated. Philadelphia: W. B. Saunders & Co. 1900. (12s. 6d. net.)

An American Text-Book of Physiology, Edited by William H. Howell, Ph.D., M.D. Second Edition, Revised. Vol. I. Philadelphia: W. B. Saunders & Co. 1900. (13s. net.)

A Text-Book of the Diseases of Women, by Henry J. Garrigues, A.M., M.D. With 367 Illustrations. Third Edition, thoroughly Revised. Philadelphia: W. B. Saunders & Co. 1900.

A Manual of Personal Hygiene, Edited by Walter L. Pyle, A.M., M.D. Illustrated. Philadelphia: W. B. Saunders & Co. 1900. (6s. net.)

The Pathology and Surgical Treatment of Tumours, by N. Senn, M.D., Ph.D., LL.D. Second Edition, Revised. 478 Engravings, and 12 Full-page Plates in Colors. Philadelphia: W. B. Saunders & Co. 1900. (21s. net.)

On some Cirrhoses of the Liver (the Lumleian Lecture for 1900), by Walter Butler Cheadle, M.A., M.D. With Illustrations. London: Smith, Elder & Co. 1900. (5s.)

A Treatise on Diseases of the Nose and Throat, by Ernest L. Shurly, M.D. Illustrated. London: Henry Kimpton. 1900.

What to do in Cases of Poisoning, by William Murrell, M.D., F.R.C.P. Ninth Edition. London: H. K. Lewis. 1900. (3s. 6d.)

Transactions of the American Surgical Association, Edited by De Forest Willard, M.D., Ph.D. Vol. XVIII. Philadelphia: W. J. Dornan. 1900.

Practical Gynæcology: A Comprehensive Text-Book for Students and Physicians, by E. E. Montgomery, M.D. With 527 Illustrations. London: Rebman, Limited. 1900. (25s. net.)

Sexual Debility in Man, by F. R. Sturgis, M.D. New York: E. B. Treat & Co. 1900. (12s. 6d.)

Anatomie Générale, par Xavier Bichat. 1ere Partie. Paris: G. Steinheil. 1900. (1 fr. 50 c.)

British Sanatoria Annual. Second Year. London: John Bale, Sons & Danielsson, Ltd. 1900. (Post free, 2s. 9d.)

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FOUR WEEKS ENDING 22ND DECEMBER, 1900.

	Week ending			
	Dec. 1.	Dec. 8.	Dec. 15.	Dec. 22.
Mean temperature,	43·1°	42·9°	48·8°	45·0°
Mean range of temperature between day and night,	8·1°	7·1°	9·8°	8·7°
Number of days on which rain fell,	4	7	7	5
Amount of rainfall, ins.	·76	2·68	1·40	1·44
Deaths registered,	302	303	282	274
Death-rates,	21·1	21·2	19·7	19·2
Zymotic death-rates,	3·4	2·9	3·3	3·4
Pulmonary death-rates,	6·2	6·3	5·1	5·2
DEATHS—				
Under 1 year,	79	58	58	54
60 years and upwards,	59	58	56	52
DEATHS FROM—				
Small-pox,	1	1	3	1
Measles,	1	2	4	2
Scarlet fever,	4	5	4	4
Diphtheria,	2	5	1	5
Whooping-cough,	33	18	27	22
Fever,	2	4	4	4
Diarrhœa,	6	6	4	10
Croup and laryngitis,	1	...	1	3
Bronchitis, pneumonia, and pleurisy,	79	80	56	46
CASES REPORTED—				
Small-pox,	6	29	14	16
Diphtheria and membranous croup,	9	31	18	9
Erysipelas,	23	21	23	31
Scarlet fever,	89	81	89	69
Typhus fever,	4	2	15	10
Enteric fever,	17	18	24	13
Continued fever,	...	...	...	...
Puerperal fever,	...	1	...	3
Measles,*	41	49	37	30

* Measles is not notifiable.

SANITARY DEPARTMENT,
GLASGOW, *27th December, 1900.*

THE

GLASGOW MEDICAL JOURNAL.

No. II. February, 1901.

ORIGINAL ARTICLES.

THE STORY OF A RESURRECTIONIST.[1]

By JAMES R. BUCHANAN, L.F.P.S. Glasg.

The assertion of the poet, that "mute inglorious Miltons and village Hampdens have had their noble rage repressed and the genial current of their souls frozen by chill penury," does not seem to hold good with respect to Scotland, where, of those who have achieved success or risen to eminence in the varied walks of literature, art, science, divinity, medicine, or commerce, not a few began the world with little more than the traditional half-crown. It is not my purpose, however, to emphasise or illustrate this well-known fact, except in the case of the subject of my paper, but to depict a phase of medical education in a bygone day, and to relate somewhat of the ups and downs in the career of a student and practitioner of physic in the early part of this century.

John Archibald was a native of Kilbirnie, a little town in Ayrshire, where he was born in one of the closing years of the last century. His father was a country labourer, one of the class immortalised by Burns as "howkin' in a sheuch, biggin' a dyke, barin' a quarry, an' sic like." The first misfortune that befel Jock, as he was called, was the death of his mother, which occurred, when he was very young, from an "in-come."

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[1] Read at a meeting of the Eastern Medical Society, held on 19th December, 1900.

His father, who suffered from a "sair hoast," became seriously ill a year or two afterwards, and died, as the "doctor" said, of "inflammation on the chest." As the "doctor" was parish schoolmaster and session clerk, scientific precision was scarcely to be looked for either in diagnosis or terminology. Jock, thus bereft of both parents, was left in the care of two sisters considerably older than himself. They were honest, well-doing girls, and did their best for Jock. He was sent to school, as all Scottish boys are, and if he was not distinguished for scholarship, it was not so much from want of capacity as lack of opportunity. The times were hard for the poor. The trade of the country was disorganised by the Napoleonic wars. Work was scarce and poorly paid, and bread was very dear. The *res angusta domi* pressed very heavily on the Archibald household, and Jock was withdrawn early from school, that his small earnings as herd-boy on a neighbouring farm might supplement the scanty family income. Jock, naturally a bright lad, and "gleg i' the uptak'," had in his short school life acquired a knowledge of the three R's. In more favourable circumstances Jock would have been considered a "lad o' pregnant pairts."

Ayrshire, in the beginning of the century, was almost wholly an agricultural county. The various industries which are rendering many of the Ayrshire towns prosperous and well-to-do were then unknown. Jock had thus little option in choosing his occupation, and had perforce to resort to man's primitive calling, that of tilling the soil. A stout healthy fellow, he readily procured work on a farm in the neighbourhood. As he grew older and stronger, he rose in the agricultural hierarchy till he was able to hold the plough. But all these years Jock's heart was not in his work. Since he left the school—indeed, ever since he had learned to read—he had a devouring omnivorous passion for books. His father's slender store was soon consumed, and then the neighbours, far and near, were laid under tribute. As his mental horizon broadened, his work became still more distasteful. He had no liking for the rough jokes and coarse pleasantries of the farm hands, and, when he had the opportunity, would retire to a quiet corner with a book. Finding his position at last altogether insupportable, he resolved to bid farewell to country life, and try the city, where several of his townsmen had preceded him. The city which is the Mecca to all the men of Ayrshire and the West of Scotland is, of course, Glasgow. But previous to his departure there were certain arrangements of a domestic character to be made.

Like John Knox, Cuddie Headrigg, and other persons well known in history or fable, Jock had been much harassed by the "monstrous regiment (*i.e.*, government) of women." When his sisters accepted the responsibility of acting *in loco parentis*, they resolved not to forego any of the privileges pertaining to that office, and they dominated Jock's life. Many of his most cherished schemes were wrecked, his dearest aspirations crushed, by the well-meant interference of his sisters. He had long inwardly chafed at this petticoat government, and saw that his removal to Glasgow would enable him to throw it off. When the project was mentioned to his sisters, it met with their bitter opposition. In picturesque Doric he was told that he was a "big sumph," a "silly cuif," a "muckle gomeral;" but, as he had heard these opprobrious epithets as far back as he could remember anything, they did not make much impression now.

When Jock first came to Glasgow he found it very hard to make a living wage—that is to say, a wage which would keep him in life. However, he procured temporary employment, and contrived to exist. But he was in a land of books, and he was happy. One evening he was sitting in his lodgings in Greyfriars Wynd, deeply immersed in one of the Waverley novels, then in course of publication, when Tam Forsyth, an old friend and fellow-townsman from Kilbirnie, and now settled in Glasgow, called. Tam came to say that he had an acquaintance who was porter or doorkeeper in the University, and that this man had been instructed by Dr. Jeffray, the Professor of Anatomy, to look out for a man, young, active, willing to make himself useful, and with a knowledge of horses. He preferred a man from the country. Tam's friend said that John Archibald, whom he had met, seemed to fill the bill, and thought he ought to apply at once. Jock hesitated. With natural diffidence, and fully aware of his slender educational equipment, he feared that he was little fitted to add to the effective strength of a seat of learning such as the University. Encouraged by his friend Tam, however, who sarcastically remarked that he did not expect that Jock would be appointed to a professorship just at once, he went to the University to enquire about the situation. Dr. Jeffray's house was in the Professor's Court, a range of old monastic-looking houses standing immediately to the north of the College buildings, and abutting on the New Vennel. The Professor did not prove a very formidable person, and soon set Jock at his ease. Dr. Jeffray, on the other hand, speedily discovered that his visitor was no common carter or ploughman, and although provincial in garb and speech, was modest, intelligent, and well-bred. He held a long and interesting conversation with him, and entered on a preliminary explanation of the nature of the work; and Archibald was offered and accepted the situation. When he emerged from the College precincts, John Archibald was virtual, if not nominal, Resurrectionist-in-Chief to the Medical School of the Glasgow University.

At this period (*i.e.*, in the early part of the century), and for a couple of centuries previously, practical anatomy was in an unsatisfactory, unprogressive, and chaotic condition. It was not penal to have a body in your possession for purposes of dissection, but very likely there had been an infringement of the law in getting possession of the body. The dissector might be charged with resetting. At common law, abstracting a body was a misdemeanour punishable by a short term of imprisonment; abstracting any portion of clothing on it was felony, and the perpetrator was liable to transportation to Botany Bay for seven years. A good deal of dissection was carried on, but at times in a hidden and furtive way, occasioned, probably, by the anomalous state of the law. I heard Professor Allen Thomson speak to his class of the advantages they enjoyed, compared with the difficulties he had himself experienced, for he said he had dissected in a cellar by the light of a candle. That might certainly be called the pursuit of a knowledge of anatomy under difficulties. What was the reason for concealment we were not informed. But it will be necessary to go back for a little.

Sharing in the general impetus imparted to all forms of mental activity by the Revival of Learning in the beginning of the sixteenth century, a renewed interest was taken in the study of medicine, and it slowly but surely emerged from mediæval barbarism and superstition. It speedily became clear, to all who had at heart the progress of medical science, that any rational theory of medicine must be based on a knowledge of anatomy. It is an axiom in politico-social economy that when, for any commodity, there is a steady demand, an adequate supply may be depended on. This does not hold good in respect to the material needed for the dissecting table; for from the sixteenth to the nineteenth century one of the great hindrances to the study of practical anatomy was the scarcity of subjects, and the annoyance, difficulty, and cost of procuring them.

Henry VIII prided himself on his knowledge of medicine, and, according to Mr. Froude, he was one of the first physicians in his kingdom. It is owing to this circumstance, I presume, that in his reign a law was passed that the bodies of executed criminals should be handed over for dissection. It was fortunate that plebeian malefactors were hanged, and not decapitated like aristocratic culprits, as, in the latter case, the part technically known as "the head and neck" would have been practically useless for dissecting purposes. As the penal laws were very severe in those days, there were many executions and scarcity was not felt. But as time progressed, and the number of schools, teachers, and students increased, the supply became quite inadequate. A number of schemes were devised, and methods suggested, for augmenting the supply. In the seventeenth and eighteenth centuries, and even in the present, tramps, beggars, and sorners traversed the country, and when anyone died in the low lodging-houses they frequented, the lodging-house keeper was held liable for the expenses of interment. These men resented this, and looked on it as an imposition. Keen-witted persons here saw the means of earning an honest penny. They went to the keeper of the lodging-house, and, representing the deceased as an old friend, to whose remains they wished to show respect, offered to pay the cost of the funeral. The body was gladly handed over, and, of course, was quietly conveyed to the dissecting room. The same thing occurred in workhouses. News being carried outside of an unclaimed body being in the house, a man and woman, decently clad in black, came deploring the decease of their dear relative, and desiring to remove the remains—a request at once acceded to, as relieving the parish of expense. The destination, of course, was as in the former case. When the bodies of suicides or the victims of fatal accidents were awaiting a coroner's inquest, in a more or less secure mortuary, they were frequently abstracted, to the great annoyance and disgust of the coroner. In London, at one time, it was common in poor localities for cheap undertakers, being willing, to keep the body till the day of interment. In the interval the body was removed, and the coffin brought up to the necessary weight with bricks and straw, and decently buried by the friends. It was proposed that the bodies of prostitutes should be handed over for dissection, as it was thought that, in this way, poetical justice would be meted out, as these people had wrought so much evil in their lives, a partial atonement would be made by their doing some good after they were dead.

In the course of last century a number of enlightened and public-spirited men in London, among whom was Jeremy Bentham, the philosopher, recognising the difficulties surrounding the study of anatomy, bequeathed their bodies to the Royal College of Surgeons for purposes of dissection, and this was publicly announced. The bequest was accepted and acted upon. Bentham's body was sent to Webb Street School, and Mr. Granger delivered an oration over it. A similar action was taken in Dublin. Ninety-nine gentlemen in that city signed a document in which the wish was expressed "that their bodies, instead of being interred, should be devoted by their surviving friends to the more rational, benevolent, and honourable purpose of explaining the structure, function, and diseases of the human being."

Messenger Monsey, an eccentric physician of Chelsea Hospital, was anxious that what he called his "carcase" should be examined after death, and he wrote, shortly before his decease, to the College of Surgeons reminding them of the bequest. His body was dissected at Guy's Hospital. Quite a number of undistinguished individuals were willing to bequeath their bodies for dissection, on payment of a sum down. This was tried but found not to be a safe investment, as, after the money was paid, the movements of the testator could not be controlled, and when he died or where, it was difficult, and sometimes impossible, to discover.

These expedients, and all others tried, were ineffectual in affording the needful supply of subjects. The truth was, law and social tradition were inimical to anatomical research. The sentiment of reverence for the dead is rational and commendable, but it must give way when necessary reforms are to be effected for the welfare of the living. Science, pursuing her inevitable but, in this case, tortuous and difficult way, found it necessary to set at defiance both law and social tradition, and to try, as a final resort, exhumation. At first sight it seems a weird, uncanny, and ghoulish proceeding, to violate the sepulchre and disturb the last resting-place of poor humanity. But the anatomists of the time could only plead, with the poor apothecary in "Romeo and Juliet," "our poverty (of subjects) and not our will consents" to this spoliation. Shakespeare himself, who might have been expected to take a philosophic view of the question, entertained a pious horror of the possible violation of his tomb, and vents imprecations on the man who would attempt it—"Curst be he who moves my bones."

Private anatomy schools were opened in London in 1714, almost contemporaneously with the genesis of what may be called the resurrection movement. A few bodies had been exhumed by students at first, but when the professional resurrectionists appeared the students willingly retired. The resurrectionists, body-snatchers, or body-lifters were, for the most part, a turbulent, unscrupulous, and rapacious band of ruffians. They were few at first, but rapidly increased in numbers. They were recruited from the lowest class of the population, and included thieves, loafers, ne'er-do-weels, dissipated gravediggers, and other waifs and strays. The teachers of anatomy found them difficult to work with. At the beginning of a session, before setting to work, they demanded a sum paid down, not as fore-handed payment, but as an honorarium—what the lawyers would call "a retainer." At the close of a session they must be paid what they called finishing-money. Subjects were paid for when supplied; and, in accordance with the laws of supply and demand, prices rose and fell with the state of the market. When subjects were plentiful, prices declined; when they became scarce, prices rose. At one time of extreme scarcity £16, and even, on one occasion, £20, were paid for one subject; but this was exceptional, £4, 4s. being the average sum paid. But the teachers incurred further liabilities. When one of the body-snatchers was captured by the police, the common punishment was six months' imprisonment, and it was expected that the anatomical teacher should support his wife and family when the husband and father was enjoying the bounty of the State; and, further, when he was released, he expected, and usually received, a sum as solatium. The teachers were ill able to afford these exactions, but they had unwillingly to accede. If a teacher thought too much was asked for a subject, refused to accept it, and employed another man, the second man was frequently set upon by the first and his associates, and the body stolen. These and other forms of trickery and fraud were considered quite legitimate by these gentry. One of them brought to a school a subject in a sack, and was paid for it, but, on afterwards going to look at the body, the teacher found it that of a man, alive and well, who jumped out when the bag was opened. It often occurred that the thieves, after selling a body to a teacher, secretly gave information to the police as to where a missing body might be found. It was seized by the police, a coroner's inquest held, and then handed over to the weeping relatives, who had it taken off and sold to another teacher. The relatives, of course, were confederates of the thieves.

I referred to the chaos that prevailed in the teaching of anatomy. The Corporation of Surgeons demanded a certificate of having dissected two parts. The Society of Apothecaries, whose license conferred a right to practise, did not require of the licentiate that he should know any anatomy; and there were men at that time practising medicine who were absolutely ignorant of the structure of the body. The naval and military medical examiners required certificates of so many parts having been dissected.

Some of the teachers were men of note, whose names have come down to us—Percival Potts and Cæsar Hawkins among them. Cheselden, the great eighteenth century surgeon, appears, but in the position of a culprit. There seems to have been, in those days, an unwritten code of ethics among the teachers. A body was commonly utilised by six or eight students, as at present, but Cheselden had acquired for himself a subject which was taken to his house, and which he refused to share with any other person. He was summoned to appear before the Court of Assistants of the Corporation of Barbers and Surgeons, and solemnly reprimanded by the president. He humbly apologised and the matter ended.

Sir Astley Cooper was the patron saint of the resurrectionists. As his biographer says, "The zeal with which he prosecuted his studies, throughout his long career, rendered his connection with those desperate characters at one time almost necessary to the furtherance of his pursuits; his position and influence so frequently enabled him to be of service to them in the difficulties in which they were often involved, that he was looked up to by them as their head, and his name became became inextricably entangled with their calling."

In Scotland the teaching of anatomy was in an equally anomalous condition. In 1636 a newly-appointed Professor of Medicine, in the University of Aberdeen, complained that he was compelled to illustrate his lectures by dissecting beasts; and even as late as 1788 it is recorded that "once a week a dog was dissected and the parts divided, each man demonstrating on his own portion." In Edinburgh no dead body had been dissected previous to 1694, when Dr. Archd. Pitcairne made a request to the Town Council to hand over the bodies of "those who die in the Correction House and have none to bury them." The Council, who seem to have been a body of fairly sensible men, granted the request, stipulating only that the Professor was "to bury the intestines within forty-eight hours, and the remainder of the body within ten days, and that his prelection should only be during the winter months."

Early in the eighteenth century exhumation was begun in Scotland, but on a comparatively limited scale, and chiefly by doctors and their apprentices. At first these disinterments were for the purpose of verifying the diagnoses, friends being unwilling to permit a *post-mortem*; but gradually the practice became common, the subjects being taken to the dissecting room. More than four centuries ago, and long before the birth of Vesalius or Ambrose Paré, Edinburgh was noted as a centre of medical science, but it was about the beginning of this century that she rose into fame as a great medical school. To maintain her pre-eminence, it was necessary that there should be a full supply of bodies for teaching purposes. Fortunately, the supply became ample. The London body-snatchers, when the supply exceeded the demand, found an open and ready market in Edinburgh. Dublin also contributed liberally, the senders frankly admitting that subjects commanded a better price in Edinburgh than in Dublin. The consequence was that Ireland became greatly impoverished, her medical schools languished, and there was much grumbling and discontent. In Glasgow, also, exhumation was had recourse to. Granville Sharp Pattison, a clever anatomist, had a flourishing anatomical school in College Street.

In 1790 Dr. Jeffray, an able and enthusiastic anatomist, was appointed Professor of Anatomy in Glasgow University, and under his guidance it became a medical school second only to Edinburgh.

Although exhumation was the chief source whence subjects were secured, those in search of them were quite willing to accept any which had not been accorded the rites of sepulture. And it occasionally occurred that some poor wretch in charge of an old crone, called by courtesy a nurse, was sold as soon as the breath was out of the body. There were many stories, true and apocryphal, told of this phase of the traffic; one will be sufficient. Two very efficient body-lifters, connected with the Edinburgh University, were named Merrylees and "the Spune:" nobody knew the proper name of the latter. Merrylees had entered into negotiation previously with an old nurse, and word was sent to him of the death of the patient. Accompanied by "the Spune," Merrylees entered the dead-room with the sackful of bark. · To their astonishment, and what Merrylees even said was disgusting to an honourable mind, the old wretch had scruples. "A licht has come doon on me frae heaven," she said, "and I canna." "Licht frae heaven," said Merrylees, indignantly; "will that show the doctors how to cut a cancer oot o' ye, ye auld fule? But we'll soon put oot that licht," he whispered to his companion. "Awa' and bring in a hauf mutchkin." "Ay," replied "the Spune," as he got hold of a bottle; "we are only obeying the will o' God: Man's infirmities shall verily be cured by the licht o' his wisdom—I forget the text;" and "the Spune," proud of his Biblical learning, went upon his mission. He was back in a few minutes, for where in Scotland is whisky not easily to be got? Then Merrylees, filling out a glass, handed it to the wavering witch. "Tak' ye that and we'll drive the deevil oot o' ye," and, finding that she readily complied, he filled out another, which went in the same direction. "An', noo," said he, as he saw her scruples melting in the liquid fire, and took out the pound note which he held between her face and the candle, "look at this, ye auld deevil, and ye'll see some o' the real light o' heaven that'll mak' yer cat's een reel." "But that's only ane," said the now wavering merchant, "and ye ken ye promised three." "And here they are," said he, as he held before her money to an amount of which she had only had an experience in her dreams, and which reduced her staggering reason to a vestige. "Weel," she said at last, "ye may tak' her." Matters had just been satisfactorily adjusted, when a knock at the door startled them, and this proved to be a visitor, heavily muffled up, who announced himself as a nephew, and hoped his aunt was well. Merrylees and "the Spune" hastily took their departure, and only discovered some time afterwards that the supposed nephew was a student, fond of a practical joke. The old woman was decently buried, but the nurse held fast by the three notes.

The irritation, annoyance, anger, and resentment roused by the doings of the body-lifters were as nothing to the thrill of horror which swept over the community when it became known that a series of murders had been committed in Edinburgh for the purpose of providing subjects for dissection. This was in 1828. The story of Burke and Hare is so well known that it is not necessary here to give more than a mere outline. These men were natives of the sister isle, and, learning that human bodies were articles of commerce, scarce and valuable, resolved to supply what was evidently a felt want. The most of their victims were women, as being less able to offer resistance, the only man victim being a well-known natural called "Daft Jamie." Some of these women were unfortunates, others were women whom Burke or Hare casually met and to whom they offered refreshments, which were accepted, and, being induced to accompany their conductor, who professed a great interest in them, to his house in the West Port, the bottle was again produced, and when helpless intoxication overtook them, they were put to death by suffocation. Hare commonly pressed a pillow firmly over the face, while Burke leant with his whole weight on the body. These ruthless murders were carried on for several months, and it was never accurately known how many people had been sacrificed. They were taken one by one to Surgeons' Hall. Suspicion was at last excited, and both Burke and Hare, and a woman called M'Dougall, who lived with Burke as his wife, were taken into custody. As is customary with his countrymen, Hare became informer, or turned king's evidence, as it is called. Burke was convicted of murder and hanged. The virtuous indignation of the Edinburgh people was not appeased with this partial punishment. They insisted on what they called "the complicity of the doctors," and were much disgusted that some of these callous investigators had not been put on trial, and probably hanged. The vials of their wrath were poured on the Faculty collectively, but "the head and front of the offending" was Dr. Knox. Knox was head of the Extra-mural Anatomical School, and it was to his rooms that Burke and Hare's victims were carried. Dr. Knox was an able man and a very accomplished anatomist, albeit somewhat egotistical and conceited, but as innocent of the murders as the Principal of the University. After the trial a committee of investigation was appointed, comprising many of the most respected and intelligent citizens of Edinburgh, to go into the whole matter. They issued a report in which the first paragraph said, "The committee have seen no evidence that Dr. Knox or his assistants knew that murder was committed in procuring any of the subjects brought to his rooms, and the committee firmly believe that they did not." This ought to have satisfied any reasonable being: but when was a mob reasonable? The Edinburgh mob rushed to Dr. Knox's house and smashed all the windows, and would have gutted it had they not been prevented by the police. Dr. Knox had to flee for the time, and came first to Glasgow, and went afterwards to London, where he died in 1862.

The sentence on Burke was that he was to be hanged and then dissected. Retributive justice thus overtook him, and he suffered the fate to which he had devoted so many of his victims. Dr. Alex. Monro was the dissector.

One interesting fact brought out in the investigation of the this case was that, when Burke came to Surgeons' Hall to negotiate the sale of his first subject, the two students whom he met, and to whom he told his story, were afterwards men well known in the profession as Sir William Ferguson, the distinguished surgeon, and Thos. Wharton Jones, the eminent physiologist.

In 1831 two men, named Bishop and Williams, were executed in London for the murder of a boy of 14, whose life they had taken that the body might be sold to the anatomists. The teacher to whom it was offered saw that there had been foul play, and gave information to the police which led to their apprehension.

At length the reign of misrule, lawlessness, disorder, worry, and finally murder, came to a close, after a continuance of two centuries. The apathy and supineness of Government, backed up by the ignorance and prejudice of an unenlightened people, were overcome, and the exertions of a number of earnest and intelligent men were rewarded by the passing of the Anatomy Act in 1832. The chief provisions of this Act are well known.

We must now return to what the novelists would term our "hero," John Archibald. His connection with the Glasgow University was a few years previous to the Burke and Hare episode, and, of course, to the passing of the Anatomy Act, and of the English operators in exhumation he knew little. The instructions he received were few and simple, and the further arrangements were in his own hands. He had to inform himself of recent interments, and to get possession of the body as soon thereafter as possible. Some of Archibald's predecessors had been in the habit of making forays on the city churchyards, and had come into conflict with the police; so he was advised to conduct operations outwith the police boundaries. After nightfall, when many of the citizens were going to bed, Archibald, accompanied by a few of the students who were fond of a little adventure, left the city in the van. Reaching the suburban churchyard, the pony was tied up in a quiet corner and the operators set to work. The leader, thoroughly familiar with agricultural labour, took the chief share of the work, aided, under his instructions, by the students. The coffin reached, it was raised to the surface, the body carefully removed, wrapped in a cloth, and conveyed to the van, where it was well covered with straw. The coffin was then replaced and the earth thrown in. Our ancestors had not cultivated the æsthetic faculties to any extent, and flowers or other mementoes were not much in evidence; but Archibald was careful, before beginning operations, to note the surface of the grave and to leave it in its original condition, so that anyone visiting it next day would not see that it had been disturbed.

Archibald was fairly successful for some time, but it began to be whispered among the country folk that the resurrectionists were at work, and in some districts the villagers took it in turn to watch the churchyard. These watchers had in some cases thrown up a rude shelter, and were provided with a coal fire and a small quantity of whisky, which is well known in Scotland—and elsewhere—to be a certain prophylactic in cases of catarrh, chills, and rheumatic pains. It was also rumoured that some of the natives carried firearms; so that Archibald and his volunteers felt, when starting on an expedition, that they were, in military parlance, going to the front. On a few occasions Archibald was baulked in his quest, and he and his companions had to save themselves by flight. But only on one occasion was he captured, and this was brought about by treachery, or a form of it. Anderson's College, or as it was called, the Andersonian University, was housed in a building in George Street, now occupied by the Technical College. It was the extra-mural school of medicine in Glasgow, and its students and the University students met on common ground in the Royal Infirmary, then the only hospital in the city. There was between the two a slumbering jealousy, or an armed neutrality, which did not exclude practical joking. On one occasion the Andersonian students, learning that the University men had arranged for an expedition the following night, quietly gave information to the authorities, and Archibald and his friends had just begun work when they were surrounded by a body of police, and carried off to the Central Police Office. When morning dawned a note was sent to Dr. Jeffray. He came down and had an interview with the Chief Constable, and Archibald and his companions were at once released, and never heard any more of the matter.

After being engaged in this work for some time Archibald found, from frequent intercourse with the students, that the majority of them had no more natural aptitude than himself, that their education was only a little better, and their material resources not more ample than his own. They were, in fact, much in the position of the impecunious scholars in the eastern capital, a few years previously, who were, in their own language, "cultivating literature on a little oatmeal." On this discovery Archibald, with a little natural ambition, resolved himself to study medicine. As a preliminary it was necessary that his friend, the professor, should be consulted.

Dr. Jeffray, mindful of the very efficient aid that Archibald had rendered to the practical study of anatomy, warmly approved of the scheme, promised his aid, and arranged that the class fees should be merely nominal, with the simple proviso that "the handy man" should lend occasional help to supplying the tables. Archibald then set himself assiduously to the study of medicine, varied with occasional professional excursions to the country. Four years were passed in this way, he passed his examination successfully, and was duly capped M.D.

From the time he commenced to study medicine, Dr. Archibald's ambition was to enter the Royal Navy. His youthful years were passed amid rumours of wars and threats of invasion. During this time of storm and stress, the patriotic fervour of our people was largely sustained by the odes of Campbell; and Jock greatly distinguished himself, in his small circle, by his spirited rendering of

> "Ye mariners of England,
> That guard our native seas."

His early ambition had been to enter the Navy to fight the French, but now that he had qualified as a surgeon, he wished to offer himself to the Admiralty in that capacity. I do not know whether he had ever read *Roderick Random*, but if, in his multifarious reading, it is quite likely he had, he did not appear to be deterred by Smollet's account of the gruesome duties of a surgeon's mate. All arrangements being made, he set off for England, going to Leith by coach, thence to London by smack.

It seems that, at this period, the naval medical examiners held their examinations in an old war vessel moored on the Thames. Appearing before the examiners, Dr. Archibald presented his class tickets and various certificates. "Where are your tickets for the Latin class?" inquired one of the examiners. Archibald hesitated, stammered, and at length said that they must have been left at home. He was told that the examination could not proceed till the tickets were produced, his papers were returned to him, and he was unceremoniously bowed out. Archibald was dumbfounded. He had acquired as much Latin as enabled him to pass the not very arduous prelim.; but, as a matter of fact, he had never attended the Humanity Class. He had omitted to notice in the Naval Regulations, or had forgotten, that attendance on a Latin class in a University was obligatory.

He was now utterly overcome, and almost incapable of reflection. All his hopes of usefulness and future advancement were centred in the Navy, and, now that it was barred to him, he felt as if the earth were slipping from beneath his feet. When at length he became somewhat composed, he found the necessity of having someone to confide in, or advise him, and made his way to a fellow-townsman, of the name of John Munro, who was settled in London and was a man of some intelligence and sense. Munro sympathised very much with his friend, but was at a loss to advise what to do in the circumstances. At length he bethought him of Mr. Hume. Mr. Joseph Hume was at that time Member of Parliament for the Montrose Burghs, and as all the Scotsmen in London who were in difficulty or distress or debt went to him for help or advice, and were seldom sent empty away, he was commonly and affectionately known as the Member of Parliament for Scotland. Mr. Hume listened very earnestly to Dr. Archibald's story, and, as he had himself qualified as a surgeon in early life, was much interested in it, and promised to look into the matter at once, telling Archibald to come back to him in two days. On his calling again, Mr. Hume said he had gone carefully into the matter. He found he could do nothing with the old fellows in the cocked hats—so he irreverently styled the naval medical examiners—but he was able to offer Dr. Archibald a commission in His Majesty's service—that of medical officer to the British troops in Sierra Leone, on the West Coast of Africa. "Now," Mr. Hume said, "there must be no misunderstanding. Sierra Leone is called the white man's grave. There is a good salary attached to this commission, and, after fifteen years' service, a very substantial pension; but, I am bound to tell you, very few men have ever returned to claim that pension. Take time to think over it; consult your friends; and let me know in a few days what you propose to do. The place will remain open for a short time." Archibald's heart sank within him. Exile for fifteen years, with the almost absolute certainty of death long before the termination of that period. Truly, it was a cheerless prospect. A conference with his friend was again necessary. There were three courses open to him, he told Munro; the first was to return to Glasgow, a disgraced and humiliated man: that he was determined never to do. Or—he had a shilling left—he could purchase a good stout cord, throw it over the first convenient branch of a tree, and so end his troubles in that way. Munro vehemently objected to that solution of the difficulty, telling him it was cowardly and unmanly. The third alternative was to accept the commission in the Army, and proceed to Sierra Leone. Munro warmly commended this course. He would probably return to the old country, he told him; premature death was not certain, even in Africa; but, if he died, he would die where a soldier should—at the post of duty, and in the service of his king and his country. Munro was a canny Scot, and knew very well the exact value of these sounding phrases; but they acted as a temporary stimulant, screwing Archibald's courage to the sticking-place, as Shakespeare says, and decided him to enter the Army. The necessary arrangements completed, he embarked for West Africa, and found, as he had been led to expect, that Sierra Leone was a pestilential swamp. Malaria, dysentery, and several (at that period) ill-defined forms of fever were endemic, and a large proportion of the troops forming the garrison were in hospital. Dr. Archibald found that he was in a land "where the pestilence walketh in darkness, and the destruction wasteth at noonday." He had a hopeful, cheerful temperament, and now that he saw his course clear—that he had crossed the Rubicon and burned his boats—he set to work with all his might. The work was constant, monotonous, and depressing, but he was buoyed up with the thought of duty honestly performed, and by the gratitude of those to whose needs he ministered. His love of books was still unabated, and reading formed a deep and abiding solace in the African wilderness.

He remained in Sierra Leone for the full period of fifteen years, and during all that time remained in fair health, suffering from nothing but trivial ailments. His chief trouble was home-sickness, which for some time was very distressing. But time and hard work brought their alleviations, and, like Alexander Selkirk on his island, he became "reconciled to his lot." But in the evenings, when the regimental band performed in the front of the Governor's house, and he heard the pathetic strains of the songs of his native land, his eyes filled at the remembrance of home and kindred.

But the period of his servitude came to a close, and he was free to return home. From the Governor, the commandant, and the other officials he received the highest encomiums for his conscientious and untiring devotion to duty, and for the skill and care which he had bestowed on his patients. The doctor, with his kindly and sunny ways, had won the heart of Tommy Atkins, and there was much sorrow in the camp when it was known that he was about to leave. It was with some little regret that the doctor himself left a spot where he had spent so many years and made so many friends.

Arrived in London, he made his way to the War Office, and interviewed the paymaster. That functionary was aghast when made aware of the identity of his visitor. "What! a doctor returned from Sierra Leone! Why, this is unprecedented; it is opposed to the traditions of the service." But the fact was incontrovertible; here was the applicant in the flesh, with ample credentials, so there was nothing to be done but to settle up, which he did after the usual formalities had been gone through.

His business being settled in London, Dr. Archibald set out for his native village. There were middle-aged men living there who remembered Jock Irzbil, as the name was pronounced, and many of the young people had heard of the ploughman who had gone to Glasgow, become a doctor, and had gone away with the soldiers to some place far abroad (geography was not a strong point with the natives of Kilbirnie at that period). He was cordially welcomed, especially by his sisters, to whom he had been very kind, sending them large sums from his pay. Rest was grateful after so many years of hard work; and it was pleasant to gossip at the fireside, and tell his friends of his doings among the black folk. But inaction became irksome, and he longed for active employment. He went to London, made application to the Admiralty, and, with his record of able service in the Army, was appointed at once a surgeon in the Navy. The wars were over, and he was employed chiefly in transports conveying troops to and from dependencies of the empire—Gibraltar, Malta, the Cape, and India. He was engaged in this service several years (making occasional visits to Kilbirnie). His last voyage was to India. At Calcutta he was seized with dysentery, and died after a short illness. His remains were interred, with naval honours, in the cemetery at Howrah, on the banks of the Hooghly.

"After life's fitful fever he sleeps well."

SURGICAL DISEASES OF THE KIDNEY: THEIR GENERAL SYMTOMATOLOGY AND PHYSICAL DIAGNOSIS—WITH ILLUSTRATIVE CASES.

By DAVID NEWMAN, M.D.,
Surgeon, Glasgow Royal Infirmary.

In this communication an endeavour will be made to study the special phenomena which form the symptoms of surgical diseases of the kidney, and various points will be illustrated by cases which have come under the observation of the writer. At the same time care will be taken to describe in detail and estimate the value of the physical signs which denote a departure from normal in size, form, consistence, situation, and sensitiveness of the kidney.

The physical examination of the kidneys and ureters will be considered under the following heads:—

I. Inspection.
II. Palpation—
  1. Abdominal.
  2. Ballottement.
  3. Rectal and vaginal.
III. Rectal insufflation.
IV. Percussion.
V. Examination of the bladder with the cystoscope or the sound.
VI. Collecting the urine separately from the two ureters.
VII. Sounding the ureters.
VIII. Roentgen ray photography.
IX. Exploration by incision.

The symptomatology will be discussed under the following heads:—

I. Symptoms referable to the kidney.
  1. Increase in bulk of the kidney.
  2. Increased sensitiveness on pressure in the renal region.
  3. Spontaneous pain in the lumbar region.
II. The presence of blood, pus, or other abnormal constituents in the urine.
III. Anuria.
IV. Evidence of vicarious action of other organs.

Symptoms are the language of disease; it is by reason of the subjective sensations of the patient, as described by himself, that we are led to seek out the objective condition upon which the divergence from health is based. The diagnosis of the case is a complete understanding of the organic changes upon which the disturbance of function depends—it is not simply giving the disease a name. The different organs of the body, according to their situation and function, have different means of communicating to us the fact that they are disordered. This may be shown by suffering, by impairment of the function of the affected part, by alteration in its position or in its size, or by evidence of a portion of its task being taken up by other organs. Every organ, when diseased, has its own prodigy of morbid aspects and expressions.

It is not desirable to enter into points of little significance, but rather to concentrate attention on the main and important facts, and endeavour to form a general conception of the characteristics of the diseases of the kidney in the treatment of which the surgeon's aid may be required.

Topographical anatomy and physical examination of the kidneys and ureters.—Physical examination of the contents of the thorax gives more exact results to percussion and auscultation than do the same methods applied to the abdomen; but, on the other hand, the senses of sight and touch yield us more information to guide us towards the diagnosis of the disease in the abdominal organs. Undoubtedly the artificial division of the abdomen into regions indicated by lines drawn on the surface of the body is very convenient for the description of the position and relationships of the viscera in the dead subject, but, in the living, the abdominal contents frequently fail to conform to the limits allotted to them by anatomists. The practical surgeon very soon recognises that the topography of the abdomen is uncertain, and the landmarks laid down are by no means accurate guides.

In studying the morbid anatomy of the abdomen, not only is it necessary to map out the position of the kidneys in health, but it is requisite to bear in mind that many diseases of other organs may mimic, or may be simulated by morbid renal conditions; so closely allied, indeed, may be the symptoms and physical signs, that only by exploration can a definite diagnosis be made. Cases occasionally happen, even in the hands of the most accurate observers, where the peculiarity of the physical conditions and the obscurity of the symptoms have led to errors in diagnosis. Vidal cites cases where errors in diagnosis have been made by such distinguished masters in the art of surgery as Velpeau, Nelaton, and Gosselin, and when the renal enlargement is due to fluid accumulations, such as a hydronephrosis or a pyonephrosis, they have often been mistaken for ascites or for ovarian cysts, and have been operated upon as such by Meadows, Billroth, Goodell, Schelelig, Esmarch, Campbell, and others. As Dickinson remarks, "to suppose a solid renal tumour to be splenic, or a hollow one to be ovarian, are errors of no infrequent occurrence; while a list of the enlargements, which have either been erroneously supposed to be renal, or for which renal swellings have been mistaken, would be little short of a complete catalogue of abdominal tumours."

Viewed from the front, the kidneys occupy a position within the following limits:—Draw a perpendicular line from the ensiform cartilage to the symphysis pubis, and at right angles from it draw a horizontal line at the umbilicus. On the horizontal line, fix two points, one on the right side and the other on the left, 4 inches from the middle line, and from these points draw upwards two perpendiculars, 4 inches long, parallel to the middle line. Unite the upper extremities of these lines by a second horizontal line. Both kidneys will be included within the quadrangular space. On the posterior surface of the body the boundaries may be fixed as follows:—Draw a horizontal line at a level with the uppermost point of the spinous process of the eleventh dorsal vertebra, and a second line at the lower edge of the spinous process of the third lumbar vertebra. Let these lines extend 3¾ inches to right and left of the middle line, and join their extremities by two perpendicular lines. Both kidneys will be within the space so marked.

While the measurements just given must be admitted to be only approximately correct, they are more reliable than the measurements taken from other anatomical landmarks. The kidneys being placed posterior to the peritoneum, when enlargement occurs the serous membrane is dissected, or pushed forwards from its posterior attachment, and the abdominal contents, being least resistent, are pressed forwards, while the firm structures posterior to the kidney seldom yield so as to cause more than an indistinct fulness in the loin. Therefore, while the enlarged kidney is in close contact with the posterior abdominal wall, it is separated from the anterior by the contents of the peritoneal cavity.

In health, the kidneys, except in lean subjects, cannot be easily limited by the ordinary methods of physical examination, but when the organs are increased in bulk by disease, or have departed from their normal position, inspection, palpation, and percussion may give important clinical information, which may now be considered in detail.

I. INSPECTION.

Inspection should be made, not only while the patient is in the recumbent position, but also from the side and from the back, and in each position it is well to make the patient assume different attitudes, *i.e.*, in the elbow-knee position, or with the knees flexed in the recumbent posture. By inspecting the abdominal wall in these different positions, we may mark irregularities on the surface and abnormal communication of the movements of respiration. These are specially noticeable when the kidneys are greatly enlarged or freely movable, as, for example, in cystic degeneration of the kidney, in hydronephrosis, or in movable kidney. The relationship of other organs to the kidney may also be ascertained.

II. PALPATION.

1. *Abdominal.*—In diagnosing displacements and enlargements, palpation is of great value. Except in thin persons, with lax abdominal walls, the normal kidney in its natural position can seldom be felt by bimanual palpation, and even under favourable circumstances all that can be made out with the hand is the lower border of the gland. In obese, muscular, or nervous patients, even an enlarged kidney may be difficult to examine without the aid of an anæsthetic.

Palpation is most effectually carried out by placing the patient in the supine posture, with the knees drawn up and the chest slightly elevated, so as to relax the abdominal muscles. Occasionally it is necessary to palpate with the patient lying prone, turned on one side, sitting, or standing erect. It is always well to divert the patient's attention from the examination, and to make him breathe deeply and use the voice. By so doing, the muscles of the abdomen are rendered lax. The hands of the surgeon should be warm, and, to begin with, the examination should be made with the whole hand laid flat on the abdomen. With steady pressure gradually increasing in degree, but varying from time to time, not by a sudden push with the points of the fingers, one hand should be pressed deeply into the interval between the crest of the ileum and the costal margins behind; while in front, the other hand is opposed to it, so as to grasp the parts, at first gently, afterwards firmly, between the two hands. By bimanual palpation, conducted in this way, the size, form, position, and consistence of the organ can be made out, or the presence of fluctuation ascertained. This examination should be made, first, with the patient lying on his back, afterwards lying upon his face, and if necessary in the elbow-knee position. If the kidney is easily felt by palpation, the conclusion may be come to that the organ is either enlarged or displaced. It is most easily felt during full inspiration. Generally, but not always, the presence or absence of fluctuation in the kidney can be ascertained, and on rare occasions friction of calculi may be detected. In cases of stone impacted in the ureter above the brim of the pelvis, much information may be gained by palpation through the abdominal parietes, provided the walls are flaccid and the patient thin. Not infrequently the ureters can be detected as hard rounded cords when they are thickened by disease. Examination should first be made without the use of an anæsthetic, in order to ascertain the degree of muscular resistance and the amount of tenderness or pain produced by pressure, and if there is much more muscular rigidity and pain over one kidney than over the other, the fact should be noted. Before examination, the bowel should be carefully cleared out by a laxative and by enemata, to remove fæcal accumulations in the ascending or descending colon, which may seriously interfere with the examination.

2. *Ballottement.*—At the Congrès de Chirurgie Française, 1886, M. Guyon called attention to this sign as a valuable indication of tumours of the kidney, but equally applicable to all forms of enlargement. Ballottement is simply a refined method of palpation, and it must be admitted to be in some respects superior to bimanual palpation as generally carried out. The patient, lying upon his back, is instructed to relax the muscles of the abdomen and to breathe freely with the mouth open. The surgeon then places his hands as for making bimanual palpation, the fingers of the hand in the lumbar region are pressed gently forwards, and the patient asked to rest upon them without straining; the other hand is then used to press the anterior abdominal wall slightly backwards—enough to diminish the space separating it from the kidney, but not sufficient to allow the two to come in contact. The surgeon then gives a short, sudden jerk from

behind, and as he does so the kidney, if increased in size or unduly mobile, is projected forward and lightly touches the anterior abdominal wall—a movement readily perceived by the hand in front. In this way the observer may, with a little practice, be enabled to appreciate not only an increase in the size of the kidney, but may also make out its form and consistence; and this may be done at a time when palpation, conducted in the ordinary way, may not show much change in the bulk or in the form of the gland. The jerks given with the hand from behind must be abrupt, their suddenness must be such as to take the muscles by surprise, and also, in order to communicate the ballottement to the anterior hand, the pressure in the lumbar region must be sustained until the kidney has touched the anterior abdominal wall. The phenomenon is most easily got in enlarged movable kidney; but the movement of itself is not evidence that the organ is unduly mobile, as it can be developed in many cases where the attachments are normal, the kidney being enlarged only.

3. *Rectal palpation* has been employed in the diagnosis of renal lesions and in ascertaining the condition of the ureters, It is most applicable to the left kidney. The patient must be an adult with an enlarged or displaced kidney, and to conduct the examination the aid of an anæsthetic is necessary. The hand, which must not be a large one, is slowly and gradually passed into the rectum while the other hand presses the abdominal wall in front. A bimanual examination is made, and, in some instances, very useful information may be obtained.

Vaginal palpation may be employed in a similar way, and is especially useful in cases of stone impacted in the lower part of a ureter.

III. Rectal Insufflation

with air may not be resorted to in routine practice, but only in exceptional cases. It has been employed for the purpose of distinguishing an intra-abdominal swelling from an enlarged kidney. The patient is placed upon his back, and, the colon having been previously cleared, the dull area in the renal region is carefully mapped out and marked. A long tube is then introduced into the rectum, and through it air is passed until the whole colon is slowly but fully distended.

The abdomen is then again percussed, and the change and resonance noted. If the swelling is intraperitoneal the dulness may be diminished only, whereas if it is renal a clear note can be got all over the front of the abdomen.

IV. PERCUSSION.

While in most persons the healthy kidneys cannot easily be limited by percussion, at least with anything like accuracy, in lean patients a dulness corresponding with the inferior and outer border of the kidney can be mapped out, and found to extend lower during a full inspiration. The proximity of the kidneys to the liver or the spleen, their position in front of thick muscles, as well as their envelope of fat, all render percussion of the normal kidney difficult; but in the absence of one kidney, and in disease associated with enlargement, percussion is of value. In the former the atrophy of the organ, or its absence, will be indicated by a clearer note being obtained over the corresponding renal region behind. If one kidney has been removed by operation, a distinct difference may be observed in the resonance of the two sides, partly on account of compensatory hypertrophy of the remaining kidney. If the morbid process has caused enlargement or distention of the kidney, the normal resonant area of the loin will be encroached on from behind. The patient should be examined recumbent, in the ventral position, or standing erect. The renal swelling can very often be accurately limited by percussion, but in some instances—for example, in cystic kidney—a resonant note may be obtained even where the enlarged kidney is easily felt with the hand; and while it is very easy to fix a clear limit by palpation, an area of diminished resonance may gradually pass to that of complete dulness. Again, a colon distended with gas may pass over the enlarged kidney from above downwards, or, on the other hand, percussion may fail to betray the presence of bowel in front of the swelling, on account of the intestinal gas having been expelled by pressure.

(*To be continued.*)

CURRENT TOPICS.

JOSEPH COATS MEMORIAL SCHOLARSHIP IN PATHOLOGY.—At a meeting held in the Hall of the Faculty of Physicians and Surgeons of Glasgow on 7th February, 1899, it was resolved to raise a Memorial to the late Dr. Joseph Coats, who first occupied the position of Professor of Pathology in the University of Glasgow, and it was agreed that this Memorial should take the form of an endowment connected with his name for the purpose of encouraging research in Pathology. Intimation was sent to his colleagues, assistants, pupils, and friends that this opportunity was afforded of testifying to their appreciation of his character and services, and of at the same time forwarding the work to which so much of his life had been devoted.

A sum of £1,200 having been subscribed, the Committee arranged with the University Court that the University of Glasgow should found a Scholarship to be known as the "Joseph Coats Memorial Scholarship in Pathology," founded by the friends of the late Professor Coats as a Memorial of his distinguished services in Pathological Science, and in recognition of the ability and enthusiasm which he devoted to advance the teaching of the subject in Glasgow.

The Scholarship will be for the encouragement of original research in Pathology, and will be tenable for one year. It will be of the value of the free income of the sum of £1,200 for the two preceding years, and will be awarded biennially.

Candidates must be graduates of medicine in the University of not more than three years' standing, and the Scholarship will be awarded by the Senate on the results of a practical examination in Pathology conducted in the beginning of October of every second year. The successful candidate must, for not less than six months following the award, pursue research in Pathology in the Pathological Institute at the Western Infirmary, or in a laboratory elsewhere approved of by the Faculty of Medicine, and shall not engage in medical or surgical practice during this period.

In accordance with these conditions the sum of £1,200 was handed over to the University Court, and in accepting this sum the Court instructed its Secretary "to tender to the donors the very cordial thanks of the University for the endowment they have so liberally provided, and to assure them of their keen appreciation of the interest they have manifested in the welfare of the University."

In addition to the Scholarship the Committee also arranged for a Brass Tablet to be placed in the Pathological Rooms of the Western Infirmary.

Committee of the Joseph Coats Memorial Fund.

Very Rev. Herbert Story, D.D., Principal, University of Glasgow, *Chairman.*

Sir Hector C. Cameron, M.D., President of the Faculty of Physicians and Surgeons.

Lord Lister, F.R.S.
Sir Wm. T. Gairdner, K.C.B.
Professor M'Call Anderson, M.D.
James M. Black, Esq., Pres. S.R.C.
Sir Thomas Glen Coats, Bart.
Allan Coats, Esq., Paisley.
George Coats, Esq., Paisley.
Professor Ferguson, M.A., LL.D.
James Finlayson, M.D.
Donald Fraser, M.D.
J. Fleming, LL.B., Pres. University Club.
A. R. Ferguson, M.B.
Professor John Glaister, M.D.
Professor W. S. Greenfield, M.D.
Rev. T. H. Martin.
Professor M'Kendrick, M.D., F.R.S.
Professor Wm. Ramsay, F.R.S.
J. B. Russell, M.D., LL.D.
J. Lindsay Steven, M.D.
Professor R. Stockman, M.D.
Professor Lewis R. Sutherland, M.B.
Wm. Tulloch, Esq.
Rev. Alex. Wylie.

James J. Maclehose, M.A., 61 St. Vincent Street, Glasgow, *Hon. Treasurer.*
David Newman, M.D., 28 Woodside Place, Glasgow, *Hon. Secretary.*

Royal Infirmary Appointments.—It ought to have been stated in our last issue that Dr. Arch. Young had been appointed Extra Dispensary Surgeon instead of Dispensary Surgeon.

The John Reid Prize, which is awarded in recognition of merit in the study of pathology in the medical schools of Glasgow, has been conferred for two years on Mr. John M'Intyre, a student of St. Mungo's College. Mr. M'Intyre's research was on the growth of connective tissue, with special reference to cirrhosis of the liver.

Royal Infirmary Reconstruction.—Much interest was taken by visitors, both medical men and others, who inspected the ten sets of competitive plans exhibited in the City Chambers early last month. Particular attention was naturally paid to the plans of Mr. James Miller, adopted by the committee, and those which were placed first by the architectural assessor. The public attention so wisely invited in this way ought to stimulate the flow of subscriptions to the rebuilding fund.

Tabloid Brand Three Syrups (Burroughs, Wellcome & Co., London).—These tabloids are a convenient preparation of iron, quinine, and strychnine, and contain each the equivalent of Easton's syrup, compound syrup of the hypophosphites, and compound syrup of phosphate of iron in the proportions of 15, 15, and 30 minims respectively. Each tabloid contains about one eighty-fifth of a grain of strychnine. The tabloids are sugar-coated and easily taken, readily carried about by those engaged in business, and stable in composition. They are supplied in bottles of 100 each.

TABLOID BRAND BENZO-NAPHTHOL (Burroughs, Wellcome & Co., London).—These tabloids are easily taken by the patient, and are a convenient agency for the administration of accurate doses of benzo-naphthol, which is not soluble in water. This beta-naphthol derivative is suited for use as an intestinal antiseptic, and we have found it give satisfaction in dilatation of the stomach. The tabloids are of 5 grains each, and are supplied in bottles of 100.

TABLOID BRAND CALOMEL, 3 GRAINS (Burroughs, Wellcome & Co., London).—These tabloids are prepared from pure sublimed mercurous chloride. Hitherto they have been supplied containing various quantities of the drug, from one-tenth of a grain up to 5 grains, but not 3 grains, the strength of the preparation now before us. The tabloids are supplied in bottles, which contain 100 each.

THE following verses are rescued from the more transient publicity of the *Evening Times*:—

A GROUP OF OLD GLASGOW DOCTORS.

DR. THOMAS LYLE (born 1792; died 1859).

THE world, which sees no deeper than the skin,
  Would doubtless have writ "failure" 'neath thy name,
Because, forsooth, thou'd not the gift to win
  What it strives for with never thought of shame.
But those, who pity only felt for thee,
  Have in oblivion deep their rich reward;
And thou, without the art to catch the fee,
  Hast found a niche in Cupid's dear regard.
Like that small band of minor bardship fame—
  Not those who've failed with more ambitious rhyme—
One little lyric has preserved thy name,
  And sent it singing down the stream of time.
    So long by river banks as lovers rove
    Will live the music of thy "Kelvin Grove."

DR. ROBERT MACNISH (born 1802; died 1837).

THE friend of "Delta"! What better passport
To ope to thee the gentle hearts of men?
Unless, in truth, it were that we retort,
The offspring droll of thy fantastic pen.
Like those whom most the bless'd gods love thou died
Ere thou of life had even reached the prime;
Yet still, 'mid feeble health, that thee sore tried,
And press of doctors' cares, thou foundest time
To wander 'mong the dreamy fields of sleep,
And of their mysteries philosophise;
Of drunkenness to write, both wide and deep,
And its strange vagaries anatomise;
Or weave thy Pythagorean stories,
Not yet of charm bereft, bright allegories!

DR. JAMES ADAMS (born 1818; died 1899).

OF all thy deeds that friendship's tongue may tell,
Whether as author or practitioner,
None e'er became thy heart or head so well
As thy defence of poor Jean Lorimer.
When she was old, and all alone, and frail,
Thou met her first, an awkward, shy schoolboy.
And long years after told her whole sad tale,
Its tragic sorrow and its early joy.
Burns lovers long shall bless thy honoured name,
As well as all pure-minded women and men,
That from their "Chloris" thou'st removed the stain
Inserted there by Allan's cruel pen;
E'en "Rob" himself would clasp thee to his heart,
Because thou'st ta'en his ill-used lassie's part.

GEORGE UMBER.

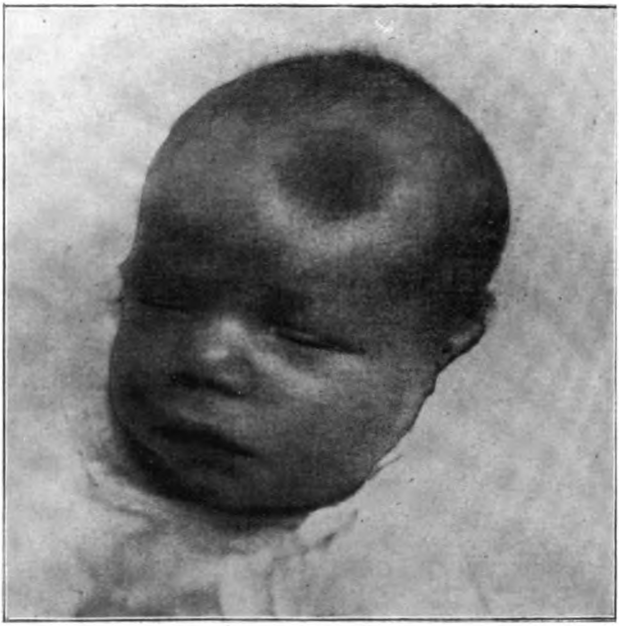


Fig. 1.

Depressed fracture of skull in an infant of 2 weeks, subsequently treated by operation.

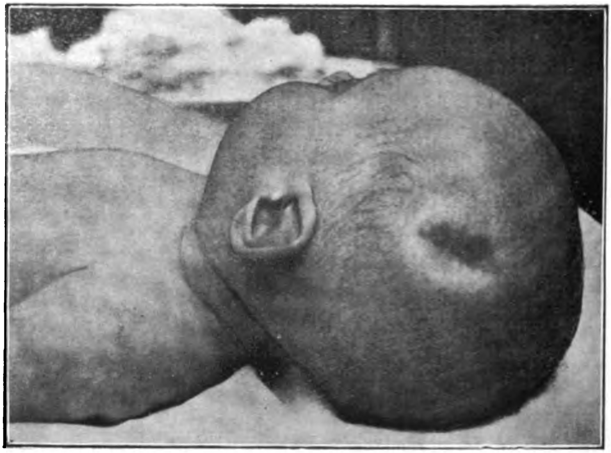


Fig. 2.

Depressed fracture of skull in an infant of 4 months, subsequently treated by operation.

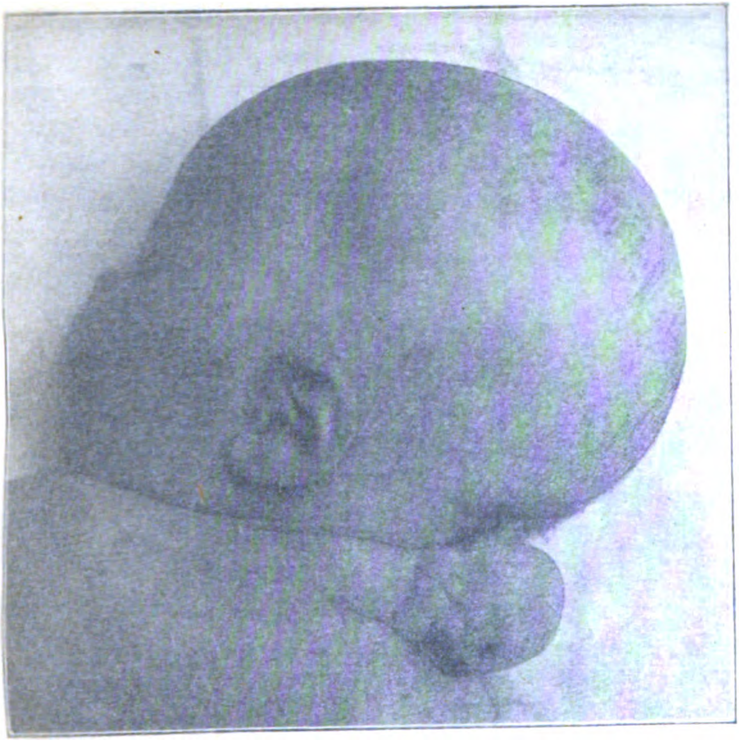


FIG. 3.

D. H.—Cervical spina bifida: meningocele, into the neck of which the spinal cord projects as a loop.

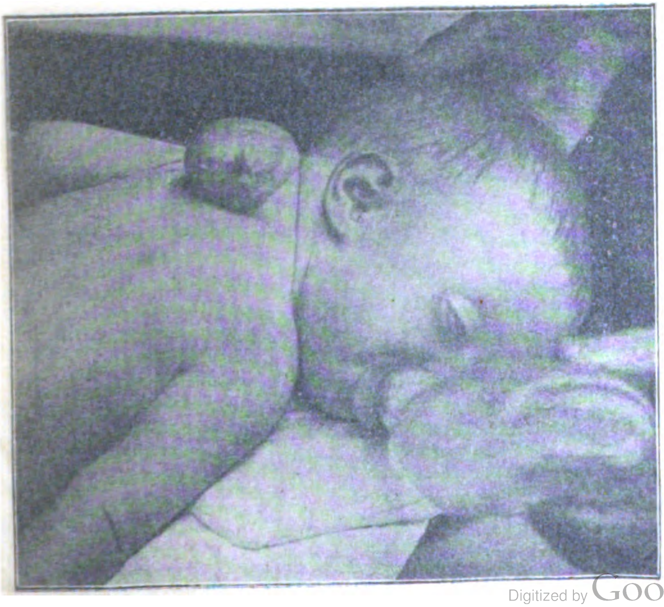


FIG. 4.

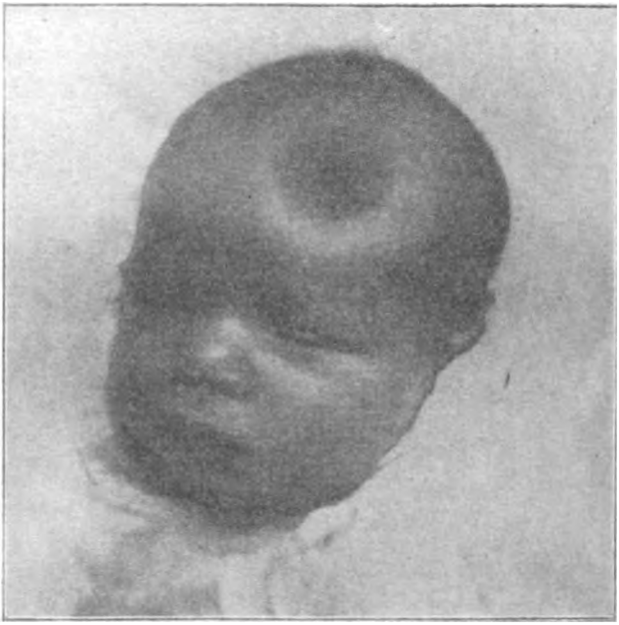


FIG. 1.

Depressed fracture of skull in an infant of 2 weeks, subsequently treated by operation.

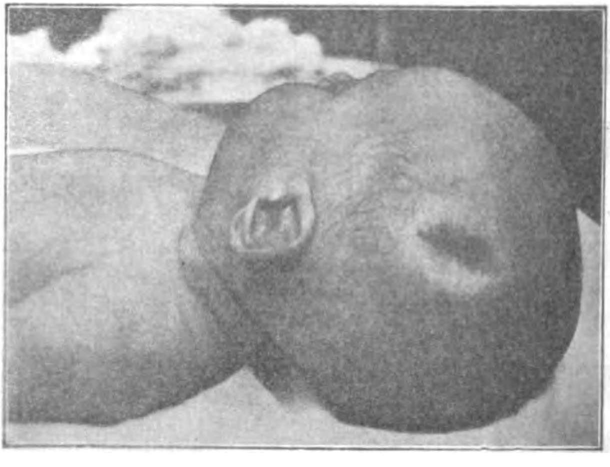


FIG. 2.

Depressed fracture of skull in an infant of 4 months, subsequently treated by operation.

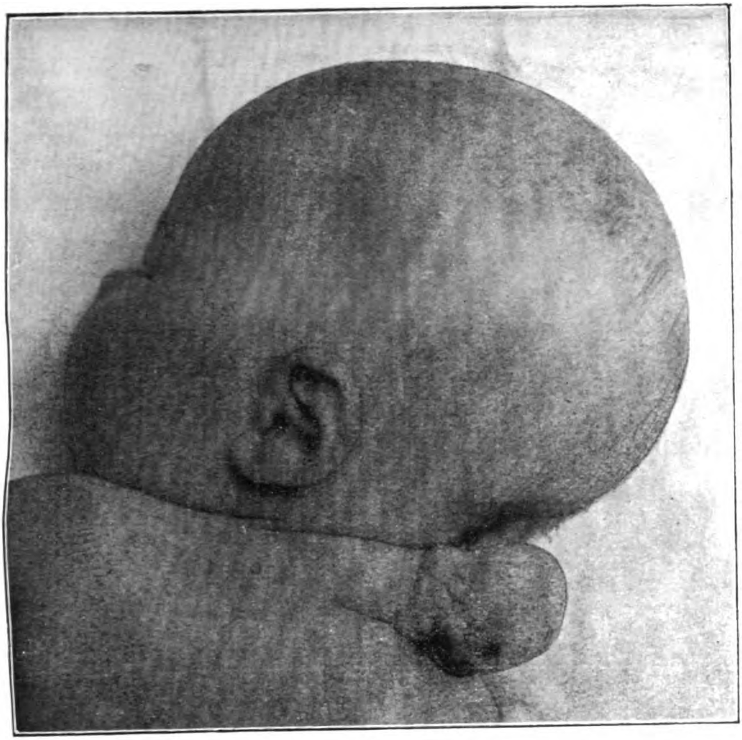


FIG. 3.

BABY D. H.—Cervical spina bifida—meningocele, into the neck of which the spinal cord projects as a loop.

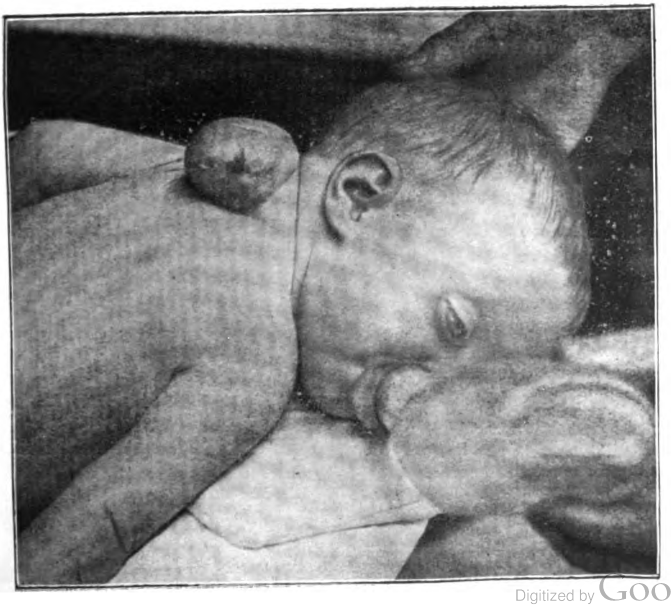


FIG. 4.

MEETINGS OF SOCIETIES.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

SESSION 1900-1901.

MEETING III (*continued*).—2ND NOVEMBER, 1900.

The President, MR. H. E. CLARK, *in the Chair.*

IV.—TWO CASES OF CRANIAL DEPRESSION IN INFANTS TREATED BY OPERATION.

BY DR. J. H. NICOLL.

CASE I.—T. E. came to the Children's Hospital in April, 1900, at the age of 2 weeks. Fig. 1 is a reproduction of a photograph taken at that date. The history of the case, as kindly given by the medical man who sent the child, is, briefly, that it is the second child of a mother with a contracted pelvis—that the former child was stillborn, having perished during a very protracted labour terminated by a difficult forceps delivery—that when called to the birth of the present child the doctor found the head firmly impacted in the pelvic brim, the left frontal region being indented by the sacral promontory. Delivery was effected by means of axis-traction forceps. The child was healthy, but exhibited the spoon-shaped depression of the frontal bone shown in the photograph.

Such birth depressions not infrequently disappear spontaneously. In the hope that spontaneous cure might result in this case, operation was postponed for a time. No improvement taking place, operation was carried out on 19th June, at the age of 10 weeks. It was found easy to raise the bone to the proper level, but impossible to keep it there. The depressed area was therefore removed. The child was treated as an out-patient, and the wound healed by first intention.

CASE II.—M. C. came to the Children's Hospital at the age of 4 months, sent by the medical man who had attended her for a depression of the left parietal bone, the result of a fall three weeks previously. Fig. 2 is a reproduction of a photograph taken on 6th July, just before operation. As in the former case, it was found impossible to maintain the bone at the level of the surrounding skull, and the depressed area was removed. The child was treated as an out-patient, and the wound healed by first intention.

Remarks.—The points of interest in these cases are—

1. The comparative rate of reproduction of the bone removed. In the two cases the area of bone removed was practically of the same extent. The two areas are in the immediate vicinity of centres of ossification (frontal and parietal respectively). The operation was identical in the two cases—pericranium raised with the scalp, and replaced with it, the dura mater being kept intact. Both wounds healed in the same way—by first intention. The two operations were performed within a fortnight of one another. Yet, at this date, in the case of M. C., bone reproduction is, as you see, complete, and has been so for a month; while in the case of T. E. there still exists, as you may see, a large gap in the skull, through which the cerebral pulsation is evident. From the margins of this gap, spicules of bone may be felt, however, growing into it, and in the words of the doctor who sent the case, "the trephine opening has now ceased to bulge, and seems to me to be more resistant than formerly."

2. The difficulty in maintaining the elevated bone at its proper level. This is explained by the fact that such cases are "bendings" or *greenstick* fractures.

V.—THREE CASES OF CERVICAL SPINA BIFIDA TREATED AS OUT-PATIENTS BY OPEN OPERATION.

By Dr. J. H. Nicoll.

Case I.—D. H. came to the Children's Hospital at the age of 7 weeks, on 15th June, 1900. Fig. 3 is a reproduction of a photograph taken on that date. Pinching of the neck of the sac between finger and thumb produced smart jerking upward of the lower limbs after the manner of the wooden figure toy on pulling the string.

On 19th June, chloroform being administered by the house surgeon, Dr. Chalmers, the tumour was removed. There was nothing special to note in the operation, except that the cord took a geniculate curve into the neck of the sac—to cover which the lateral flaps had to be made longer than usual. The child was sent home after operation, and was nursed by the mother under the directions of Sister Laura. The wound

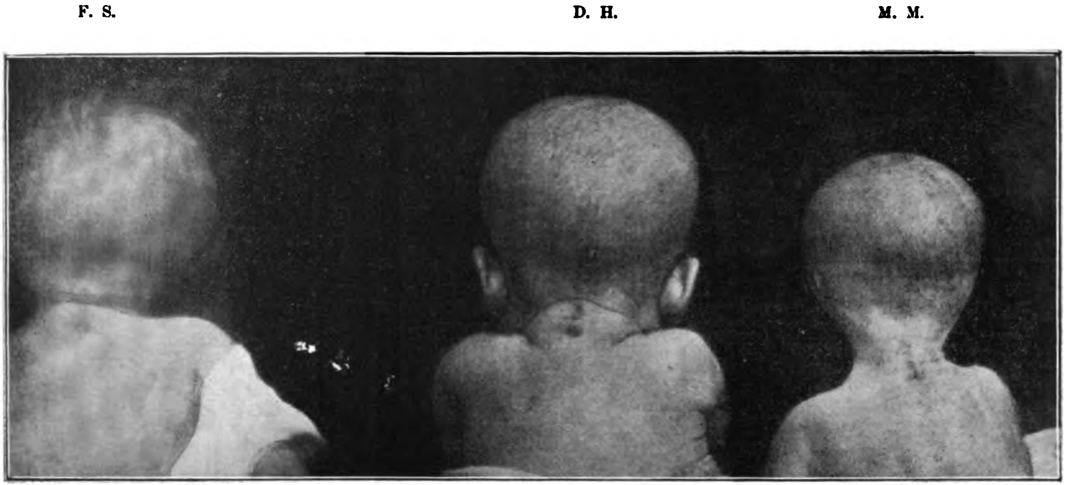


FIG. 5.

Photograph of the three cases of cervical spina bifida taken three and a half months and two months respectively after operation. Patients at this date aged—F. S., 4 months; D. H., 7 months; M. M., 7 months.

healed by first intention, and the sutures were removed on the seventh day.

Case II.—F. S. came to the Children's Hospital Dispensary in the end of July, 1900, at the age of 2 months. Fig. 4 is a reproduction of a photograph taken at that time.

Case III.—M. M. came the same week, aged 5 months. A photograph was taken at that time. Unfortunately, it was taken on the plate just used for a case of talipes, and so was spoiled. Both cases were operated on on 7th August, 1900. Chloroform was administered by the house surgeon, Dr. Chalmers. Both proved pure meningoceles, and the operations offered no points of special interest. The children were sent home after operation, and were nursed by the mothers under the directions of Sister Laura. Both healed by first intention, the sutures being removed on the seventh day.

Fig. 5 is a reproduction of a photograph of the patients taken in the early part of October. At that time the patients were all well, as they are now. (Patients shown to Society.) Baby M. M., though the oldest, is somewhat smaller than the others, being rather puny, though otherwise apparently healthy.

Remarks.—Spina bifida is not uncommon in the cervical region (though, of course, comparatively much less frequent than in the lumbar region). I have operated on a number of cervical cases, one of which, operated on at the Children's Dispensary in 1896, was, like the three foregoing cases, successfully treated as an out-patient, the child being nursed by the mother under the directions of Sister Edith.

Of all cases of spina bifida, those of the cervical region are the best suited for post-operative treatment as out-patients. I have, however, treated cases of the affection in the lumbar region as out-patients after operation, and have shown such cases to this and other societies. With properly selected cases I have found the results satisfactory. To ensure success, selection is less concerned with the infant than with the mother and her circumstances. Given a tiny infant, the chances of success in the mother's care, provided she is intelligent and can devote the first few days entirely to nursing under specific instructions. are quite as good as in the wards of an average hospital. The ideal conditions, such as may be obtained in private cases, include nursing by the mother and by two nurses in addition.

It is not necessary here to detail the steps of the operation carried out in these three cases. Full accounts of the different methods which I have followed in cases of spina bifida and of hydrocephalus may be found in the *Transactions* of this and other societies, and in papers on the subject in the *Glasgow Hospital Reports* (vol. ii), and the *British Medical Journal* (15th October, 1898).

MEETING IV.—16TH NOVEMBER, 1900.

DR. J. LINDSAY STEVEN *in the Chair.*

I.—SPECIMENS FROM A CASE OF ADDISON'S DISEASE.

BY DR. J. LINDSAY STEVEN.

Dr. Lindsay Steven showed the suprarenal capsules from a typical case of Addison's disease. He remarked that the present was the third case of morbus Addisonii which he had had under his care during the last five years, all of them having been verified by *post-mortem* examination. Specimens from the first of the three cases had already been shown at a previous meeting of the Society on 23rd October, 1896 (*Trans.*, vol. i, p. 209), and were now preserved in the museum of the Glasgow Royal Infirmary. In this case the clinical characters were quite unmistakeable, and the *post-mortem* appearances were typical. In the second case, where the specimens were not preserved, the clinical characters were not quite so indubitable, but the *post-mortem* revealed complete tubercular transformation of both suprarenal capsules. The third case, from which the specimens now shown were obtained, was in all respects perfectly characteristic and unmistakeable from the clinical aspect, and, as could be seen from the dissected specimens shown, there was complete tubercular destruction of both suprarenal bodies. In connection with the recent discussion between Sir Samuel Wilks, Bart., and Sir William T. Gairdner, K.C.B., as to the relationship of leucodermia to Addison's disease, it may be stated, in a word, that in none of the three cases was there the slightest trace of leucodermia.

The man from whom the specimens were obtained was a French polisher, aged 35. He was admitted to the Infirmary on 15th August, 1900, and died on the 23rd of the same month. He had not felt so strong since a rather severe attack of influenza in March, 1899, but did not consider himself seriously unwell till about three months before admission, when loss of strength became a very marked and distressing symptom. Discolouration of the skin was not noticed either by himself or his friends until three weeks before admission, but then it was most marked, so much so that he might have been mistaken for a Hindoo. The blood-count showed no diminution of red corpuscles or of hæmoglobin. The buccal mucous membrane and the tongue were pigmented. The skin of the generative organs was black. In his childhood and youth he had suffered from glandular abscesses, probably tubercular, in both axillæ, but from the age of 17 till March, 1899, he had considered himself a healthy man. He rapidly sank after admission from debility, headache, sickness, and vomiting. Dr. Workman's summary of the *post-mortem* is as follows:—"Morbus Addisonii, with characteristic bronzing of the skin and pigmentation of the mucous membranes of mouth, conjunctivæ, and small intestine. Characteristic tuberculosis of both suprarenals, with advanced caseation and abscess-formation. No tuberculosis elsewhere in the abdomen. Heart healthy. Healed tubercle of left apex."

Perhaps the chief points to call attention to in this case are the very short duration of the cutaneous pigmentary changes —so far as can be ascertained, only about six weeks' duration in all—and the pigmentation of the mucous membrane of the small intestine, which was very marked and wide-spread. It is obvious, from the appearance of the suprarenal capsules, that the morbid process in them must have been of much longer duration, probably coinciding with the first onset of weakness after the influenza in March, 1899. The nature of the lesion in the capsules was proved by microscopic examination. Suprarenal tabloids, 5 grains night and morning, were commenced on 17th August, and had to be stopped on the 21st on account of the vomiting. If the tabloids were not the cause of the sickness and vomiting, which began on the afternoon of the 18th, then they were absolutely without any effect, so far as could be seen, upon the progress of the disease. In the first two cases suprarenal substance, though tried over a longer period, was likewise without effect.

II.—FATAL CASE OF ANÆMIA FOLLOWING UTERINE HÆMORRHAGE.

BY DR. T. K. MONRO.

The patient was a housewife, aged 42, who had a severe and prolonged flooding six weeks before admission. This left her sick and very pale and weak. She had occasional losses for a time afterwards, and a second severe hæmorrhage eight days before admission. Two days later she was sick, and vomited everything she took. Till the occasion of the first hæmorrhage, menstruation had been regular since the birth of her last child, more than three years before. She had been liable to attacks of breathlessness and palpitation since she had rheumatic fever four years ago, and there was also a tendency to diarrhœa which dated from a complete laceration of the perineum seven years ago.

The principal symptoms on admission (25th August, 1900) were pallor, weakness, thirst, and a soft and rapid pulse. A soft V.S. murmur could be heard at all parts of the cardiac area, and was conveyed into the lateral region and into the neck. Examination of the blood showed absence of rouleaux formation; red corpuscles 1,600,000 and white corpuscles 9,000 per c.m; hæmoglobin, 20 per cent. O.E. normal, with the exception of pallor of the fundi. There was no enlargement of the spleen.

About a fortnight later there was a good deal of rouleaux formation, and the red corpuscles showed no alteration in shape or size. The red corpuscles had increased to 2,400,000. The whites were 13,400 per c.m. (two hours after breakfast). The differential count of whites showed—

Polymorphonuclear cells, ...	70 per cent.
Large lymphocytes, ...	20 „
Small lymphocytes, ...	8 „
Eosinophiles, ...	2 „

On 16th September she had another severe hæmorrhage, which induced a condition of collapse, with subsequent retching and abdominal pain. She was transferred to the care of Dr. Kelly, who dilated the cervix uteri and removed a sloughing submucous myoma of the size of a small orange. Early in October, after she had returned to the medical ward, rouleaux formation was found to be almost absent, the hæmoglobin was much below 10 per cent; red corpuscles 2,080,000 per c.m.; white corpuscles 9,000, with the proportion of 7 per cent large and 25 per cent small lymphocytes. There were no retinal hæmorrhages, but the blood was so pale that, in the right eye especially, it was scarcely possible to see the vessels. She had latterly intractable diarrhœa, and occasional elevations of temperature as high as 103°. She died on the 8th October, about three hours after a rigor, and three months after the first flooding.

The *post-mortem* examination showed the appearances usually met with in cases of pernicious anæmia, with the important exception that no hæmosiderin could be detected in the liver or kidney. The section of bone-marrow exhibited is taken from the femur, and shows that the adipose tissue is in great part, though not entirely, replaced by small lymphocytes, among which large multinucleated cells are scattered.

III.—CASE OF CANCER OF THE SMALL CURVATURE OF THE STOMACH, IN WHICH A MYOMA OF THE STOMACH WAS SO SITUATED AS TO RESEMBLE A BALL-VALVE AT THE PYLORIC ORIFICE.

By Dr. T. K. Monro and Dr. Hugh M'Laren.

The patient was a labourer, aged about 56, who was admitted to the Royal Infirmary on 27th January, 1900, complaining of swelling of the abdomen. He had pleurisy thirty years ago, and, more recently, attacks of cold, but otherwise good health and fitness for work until the onset of obstinate constipation, with abdominal enlargement, anorexia, and emaciation, about three weeks before admission. There was no history of alcoholism. The swelling of the abdomen was due to fluid, and for this paracentesis was required. The malignant character of the disease was quite obvious during life, and patient succumbed on 4th February. After death, cancerous growths were found widely disseminated throughout the abdomen. The primary tumour was a cylinder-celled epithelioma of the lesser curvature of the stomach at about its middle. On opening the organ another tumour, about the size of a walnut, was found hanging from the lesser curvature, close to the pylorus, in such a position as to resemble a ball-valve at that orifice. Dr. Workman states that the stomach was dilated. Microscopic investigation shows that the growth consists of unstriped muscular fibre. The portion of this myoma now exhibited measures an inch and a quarter by seven-eighths of an inch (after hardening).

Some tumours—for instance, uterine myomata—are so common that their association in one individual with a malignant growth would scarcely call for remark. A more important combination was reported by myself to this Society in 1896 (*Transactions*, 1895-97, vol. i, p. 135; *Glasgow Medical Journal,* 1896, vol. xlvi, p. 176). A man who died of cancer of the pylorus, at the age of 63, was found to have in his cerebellum, myxoma which had remained latent since about the age of 16, at which time he had suffered from symptoms of intracranial tumour. In the present case, the association of the two distinct tumours in the stomach itself is curious enough, but very specially are the nature and position of the myoma remarkable. Nevertheless, it appears to have given rise to no symptoms that can be definitely referred to its presence. Everything can be accounted for as readily by the cancer, and it is noteworthy that the period of ill health extended back for only four weeks.

IV.—ACUTE LOBAR PNEUMONIA WITH UNUSUAL FEATURES.

By Dr. T. K. Monro and Dr. Hugh M'Laren.

The patient was a brassmoulder, æt. 20, who was admitted to the Glasgow Royal Infirmary on 17th January, 1900. After *malaise* and occasional shiverings for a week, he had taken to bed on the 13th owing to a severe stitch in the right side, together with a sense of heat and sometimes cold. On admission, the clinical features corresponded to those of an ordinary acute lobar pneumonia. There was some suspicion with regard to the upper part of the left front, but the characteristic physical signs were detected at the right back, all over, except at the extreme base and, perhaps, the extreme apex. Two or three days later, the signs were well marked over the right front. By this time the pulse was markedly hyperdicrotic; patient was delirious by night and restless by day; the tongue was dry and hard, and there was severe diarrhœa, the stools being pale yellow. Incontinence of urine and fæces set in later, and then picking at the bedclothes. Death occurred late on the 25th, nearly thirteen days after the onset of the pain in the side.

The unusual feature observed during life was the long duration of the disease without any change in the symptoms or physical signs to suggest that a crisis was approaching. After death, the naked-eye characters of the lung were quite in keeping. The organ was reddish grey, entirely consolidated and very firm. In front, there was a small abscess of the pleura which contained pneumococci. On microscopic examination of the lung itself, areas were found in close proximity to one another, some of which showed abscess formation, others resolution, and others abundant fibrin, and all of them hæmorrhage into the alveoli. The spleen was much enlarged, and contained pneumococci. Nothing was found in the intestines to explain the diarrhœa.

V.—SECTIONS OF LARGE INTESTINE FROM A CASE OF CHRONIC INTERSTITIAL NEPHRITIS, WHERE THE NAKED-EYE APPEARANCES RESEMBLED THOSE MET WITH IN DYSENTERY.

By Dr. Hugh M'Laren.

Clinical note.—Married woman, æt. 49, admitted 4th September, 1900, in a comatose condition. Liable to ulceration of the legs for nine or ten years past. An attack of sickness and vomiting two or three months ago, and since then diarrhœa. For the past eighteen months, occasional weak turns which kept her in bed three to seven days at a time.

Present illness began 1st September, when she complained of feeling weak and ill. On the 3rd, she looked dazed, and seemed to have pain in the stomach. She had five epileptiform convulsions before admission.

On admission (4th September), coma. No palsy. Heart normal. Abundant moist râles in the lungs. Urine, of which a few ounces were drawn off by catheter, loaded with albumen. Temperature subnormal. Four short convulsive attacks, with increasing weakness. Death on 5th September.

At the *post-mortem* examination, the kidneys presented all the characters of chronic interstitial nephritis—they were small and dense, capsules were adherent, and the cortices were much diminished in thickness. The left ventricle was hypertrophied. The lungs, liver, and spleen were congested. The large intestine was considerably swollen, and the mucous membrane presented large folds, and was of a dark colour, as if it were infiltrated with blood. The summits of the folds were almost black in colour, and some of them showed small superficial ulcers. These changes were most marked in the rectum, and diminished slightly in intensity as you passed upwards, but they were still very well marked in the cæcum.

Sections from the large intestine were examined under the microscope. They showed an extensive infiltration of the mucous and submucous layers with leucocytes. In some parts this infiltration seems to be aggregated, forming masses which are probably commencing abscesses. In the mucous layer, and also, to some extent, in the submucous, there is considerable hæmorrhage, which is evidently secondary to the inflammatory condition.

VI.—A SMALL CONCRETION REMOVED FROM THE DUCT OF THE SUBMAXILLARY GLAND.

By Dr. G. H. Edington.

Dr. Edington showed as a fresh specimen a small concretion removed from the duct of the submaxillary gland.

The patient was a boy, aged 16 years, who had presented himself at the dispensary of the Western Infirmary on the previous day. He complained of a "swelling under the tongue," which he had noticed for ten days. On getting him to turn up the tongue, considerable redness and swelling was noticed at the terminal portion of Wharton's duct, on the right side, close to the frænum. In the centre of the reddened area a small yellowish-white point was seen, and this, on being struck by the probe, proved to be calcareous. On grasping the swelling between the finger and thumb, it was found to be very hard.

The mass was fixed by grasping the mucous membrane behind with forceps; an incision was made over it with a tenotome, and the concretion was shot out by pressing between the finger and thumb. It was followed by a stringy, mucus-like material.

The proximal part of the duct was not apparently distended, nor was there any swelling appreciable in the region of the gland.

The concretion, which is a flattened ovoid, measures 6 mm. in length by 4 mm. in breadth by 3 mm. in thickness. It consists of an outer rind deposited on a central nucleus of about the size of a grape-stone. The nucleus is clearly visible through cracks in the rind.

Dr. Brodie, of the Physiological Department of the University, finds that the concretion "consists entirely of calcium phosphate, with some albuminoid matter which is not identifiable, but which is presumably mucus. Judging from its appearance in the test-tube, the (?) mucus formed about one-sixth of the bulk of the concretion. Carbonates, chlorides, and sulphates were absent."

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.

SESSION 1900-1901.

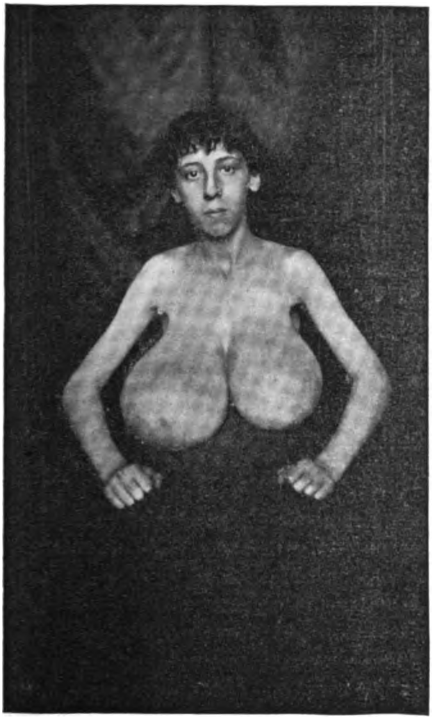
MEETING I (*continued*).—8TH OCTOBER, 1900.

The Vice-President, MR. A. E. MAYLARD, *in the Chair.*

IV.—HYPERTROPHY OF THE MAMMÆ.

BY DR. T. K. DALZIEL.

Dr. Taylor showed for Dr. Dalziel specimens from a case of hypertrophy of the mammæ from a girl, aged 15 years. The operation was performed on account of the discomfort resulting from constant dragging and consequent inability to do any



work or even to walk with comfort. The accompanying photograph illustrates the condition. The breasts were not removed at the same time, there being an interval of a fortnight between the two operations. The following is the pathological report:—

1. Breast, measuring 11 inches by 9 inches; weight, 7 lb. Deep in the substance of the breast are seven or eight firm, rounded, tumour-masses, varying from about the size of a hen's egg to a little larger, and arranged chiefly round the periphery (also one just below the nipple, which is poorly developed). When cut into these present a pinkish-white appearance, and are firm in character. There is a great increase in the normal fat.

Microscopical Examination.—The section has all the characters of a simple adenoma, there being gland-like spaces lined by epithelium and supported by a connective-tissue framework.

2. The characters are practically the same as in the first. Weight, 4½ lb.

MEETING II.—12TH NOVEMBER, 1900.

The President, MR. H. E. CLARK, *in the Chair.*

I.—EVOLUTION OF THE MASTOID OPERATION.

BY DR. JAMES KERR LOVE.

Dr. Love's paper will be found as an original article in our issue for December, 1900, at p. 401.

Dr. Barr asked for a description of Dr. Love's operation. He had had an opportunity of seeing Mr. Ballance's method, and he had been favourably impressed by it. He thought that in chronic cases grafting was very useful, and he had seen Mr. Ballance applying the grafts one week after the operation with very satisfactory results. It used to take from six months to a year before epithelialisation of the cavity was complete, while in Mr. Ballance's cases the walls were covered over in six weeks. He thought that there was a great future for this method, although he could not, so far, speak from personal experience. In acute cases, on the other hand, simple opening of the mastoid would be sufficient; these cases, however, should not be included in the statistics.

Dr. Downie thought that Dr. Love's modification was decidedly an advance on previous methods. There was left by it a less unsightly scar behind the ear. He wished to congratulate Dr. Love on the results shown in his cases.

Mr. H. E. Clark pointed out that immediate closure of the mastoid incision was the important point in Dr. Love's method. But there were many cases, *e.g.*, cholesteatomatous, where the skin of the external auditory canal was not sufficient to supply the covering for the cavity. The cases shown to the meeting presented cavities which were small when compared with those in which grafting had been found useful.

Dr. Love, in reply, said that he quite recognised the value of skin grafting in cases such as those Dr. Clark referred to, but he did not think it should be adopted as a routine practice, because, first of all, it kept the patient longer in the hospital or home; and, secondly, it meant the disagreeable prospect of a second operation under chloroform. One of his cases healed soundly in seven weeks without grafting, and most healed in about three months. Broca and Loubet Barbon,[1] as far back as 1894, grafted a large cavity *via* the external auditory canal, and Dr. Love thought grafting by this method might be found useful in cases in which healing was slow.

II.—PARTS FROM A CASE IN WHICH CHOLECYSTENTEROSTOMY HAD BEEN PERFORMED SIX MONTHS PREVIOUSLY (FRESH SPECIMEN).

By Dr. Rutherfurd.

The subject from whom this specimen was obtained was a woman, aged 58, on whom cholecystenterostomy had been performed six months ago (23rd April, 1900) for deep jaundice. The explanation of the jaundice was not obtainable at the operation. The gall-bladder contained green fluid, evidently altered bile and mucus; no gall-stones were found; and while the probe could be passed down into the common duct, it could not be made to enter the duodenum, the orifice being obstructed. Never at any time was the obstruction absolute, so far as could be judged by the colour of the fæces.

A communication was established between the gall-bladder and the upper part of the jejunum, with the result that, in six or seven weeks after, the patient's colour had cleared up, and almost no trace of jaundice was left. She was ultimately lost sight of, and was only lately readmitted to the hospital, suffering from jaundice nearly as intense as before. She had fever, and there was enlargement and tenderness of the liver. It was thought that infection by the contents of the bowel had travelled by way of the artificial opening through the the cystic duct and common duct, and had so given rise to cholangitis.

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[1] *Mastoid Abscesses and Their Treatment*, translated by Henry J. Curtis, p. 149.

She died in the course of a day or two, and at the *post-mortem* it was found that the bimucous fistula had closed. The cause of this important fact is not clear; it is possible that more care should have been taken at the operation in the stitching of the mucous membrane. The opening was, to begin with, large enough to admit the first joint of the index finger. A by no means bulky swelling of the head of the pancreas was found. Examination of this in the recent state led to the opinion that this was due to a neoplasm. Behind and above the swelling was the common duct packed with stones. The duct and its hepatic tributaries were dilated. There were numerous small abscesses in the liver, and pyæmic abscesses in the lungs.

Probably the growth in the head of the pancreas had obstructed the duct, and so originally caused the formation of the stones.

III.—SPECIMENS ILLUSTRATIVE OF THROMBOSIS AND EMBOLISM AS COMPLICATIONS OF SURGICAL CONDITIONS, WITH DESCRIPTIONS OF THREE CASES.

By Dr. Rutherfurd.

Case I. *Large thrombus with grey structure in it, but mainly comparatively recent and dark in colour.*—It was found *post-mortem* in the right ventricle of a young lady, aged 25, who had been operated upon for appendicitis on the tenth day of illness. There was a circumscribed abscess outside of and behind the cæcum, and close to the iliac vessels; from this cavity the appendix was removed as a slough. She was doing well, and on the third day after the operation the packing was removed from the wound. She suffered from pain and cried a little. By the time fresh packing had been introduced she had passed into a state of collapse. She cried for "breath," and had distress across the back. Her head was lowered and strychnine injected. Hot applications, &c., were used, but, after several incomplete recoveries, the pulse finally disappeared at the end of half an hour.

At the *post-mortem*, by myself and Dr. R. B. Ness, the clot shown was found. In the fresh state the clot measured 4½ inches to 5 inches long, ending in several branches, and was as thick as the root of the index finger. It was lying flaccid in the right ventricle, like a coil of rope, and was clearly a cast of the iliac veins. On splitting the veins, from the iliac upwards, nothing was found in their lumen.

CASE II. *Operation for varicose veins followed by thrombosis and fatal embolism.*—The patient was a young woman, 27 years of age, nurse in one of the nursing homes in Glasgow. She came to me on account of aching in the legs, associated with the development of varicose veins, more markedly in the left leg, these having made themselves felt in the latter half of her first year's work in the home.

As to the anæmia, I asked Dr. W. K. Hunter to advise her, and about two months later, after she had had a rest and change of air, I operated with Dr. Hunter's assistance.

Six inches of the internal saphenous vein was removed in the thigh, and then the circular operation was done in the leg, everything being divided down to the fascia.

The patient did perfectly well till after the first dressing, eight days later. The wounds were found healing *per primam*, although at the back of the leg-wound there was a little extravasated blood which was easily wiped away. A little oozing took place from this point during the following night.

Two days later (tenth day from the operation) I was sent for, about 3 A.M., to find the patient collapsed and in great distress. About three-quarters of an hour previously she had awakened from sleep, complaining of pain in the chest on the left side and of difficulty in breathing. I found her with rapid, almost imperceptible, pulse and ashy look, having epileptiform seizures. She had already had one, and I saw two. The hands were clenched, the patient giving a slight groan, breathing rapidly, and then tonic spasm becoming general, with screwing of head and eyes to one side.

During the seizures the pulse disappeared, and, after the third one, did not return. The patient was dead in about two hours from the onset of symptoms.

Post-mortem examination by Dr. R. M. Buchanan.—Large thrombi, less firm than in Case I, were found in both branches of the pulmonary artery. Both lungs œdematous, and more or less hæmorrhagic. No thrombus in vena cava. Slight thrombosis (black, soft clots) in veins of the thigh on the side operated on.

Case III.—This was a more acute case. The patient was admitted to the Royal Infirmary with a compound fracture of the skull. He was bleeding copiously from the ear, and the back of the head was swollen and infiltrated with blood. There was evidently an injury of the sinus. It was resolved to cut down and relieve the symptoms of compression and arrest the hæmorrhage, if possible. The trephine-opening compromised the lateral sinus. The fracture ran down just behind the genu. While attempting to clear the sinus, preparatory to plugging or to involution of its wall, the patient died.

A *post-mortem* examination was made by Dr. Workman, who found in the lateral sinus, in the region of the genu on the right side, that is to say, proximal to the wound, a well-formed grey or laminated thrombus, and in the branches of the pulmonary arteries numerous embolisms, the plugs being grey in part, with additions in the form of black clot.

This case ran its course within twelve hours.

While thrombosis, to a certain extent, in traumatic and infective conditions is unavoidable, we do not know much about the precise conditions under which it arises and extends. In all of the above three cases the fatal complication has been unexpected. The number of operative cases in which it occurs as a serious complication is comparatively small. The second case is of special interest in view of the advocacy of operation for varicose veins, on account of their tendency to cause thrombosis and embolism. In appendicitis a small percentage are fatal by thrombosis, but deaths from thrombosis and embolism are probably more frequent than is supposed.

Mr. H. E. Clark referred to cases published by him in the *Glasgow Hospital Reports* for 1899, and pointed out that in them the fatal issue was not so sudden as in those communicated by Dr. Rutherfurd. The condition would probably be frequently found after compound fracture if one were only to look out for it. He remarked on the fact that in one of Dr. Rutherfurd's cases the clot had not passed out of the heart. In all of his cases the heart was free.

IV.—DISTAL LIGATURE—CAROTID AND SUBCLAVIAN; PARTS CONCERNED IN TWO CASES OF WARDROP'S OPERATION FOR INNOMINATE ANEURYSM.

By Dr. Rutherfurd.

1. Woman of 60, in whom some benefit was obtained, and who died two years later.

2. A man of 30, with well-marked aneurysm interfering with the recurrent laryngeal nerve, who died from interference with respiration immediately on completion of the operation.

The cases will be reported at length elsewhere.

Professor Muir thought that dilatation of the innominate, as seen in Case 1, does not tend to rupture, and that operation is therefore not called for.

Mr. H. E. Clark was interested in the fact of the common carotid being pervious in Case 1. The dilatation in this case was different from that in Case 2. He had treated a globular aneurysm of the innominate in an old lady by needling. She had lived for nine years afterwards without apparent increase in the size of the aneurysm. Latterly there had been pressure on trachea and vagus, so that some enlargement had undoubtedly taken place. The question of operation depends on the question of the tumour increasing and causing pressure on important neighbouring organs. With regard to Case 2, ligation may have been followed by an immediate stretching of aneurysm-wall affecting the vagus.

Dr. Rutherfurd, in reply, remarked that in Case 1 the tumour was diminished by the operative treatment. In connection with Mr. Clark's remarks, he would add that the vagus was spread out over the sac, and the penning up of blood in the sac may have brought about the fatal result by pressure on the nerve.

V.—PARTS FROM A CASE OF ENCEPHALOCELE.

By Dr. Rutherfurd.

Encephalocele—head and spinal cord showing dilated third ventricle and central syringomyelia—from an infant aged 1 month, who died a fortnight after the operation.

VI.—SAMPLES OF INTESTINAL SAND.

By Dr. R. S. Thomson.

Dr. R. S. Thomson showed samples of intestinal sand from six cases. The patients from whom the samples were obtained were, without exception, females of distinctly nervous or hysterical temperament. They suffered from abdominal symptoms which could be referred either to the stomach or lower part of the intestine, the symptoms of gastric catarrh being sometimes combined with those of colitis. The presence of the sand in the motions was accompanied by pain, referable to the transverse and descending colon, of varying intensity. Generally, however, the degree of pain varied directly with the amount of sand in the motions. The passage of the sand was accompanied by a good deal of rectal tenderness, and by the presence of a good deal of mucus in which the sand was entangled.

The various samples showed considerable differences, both in colour and in fineness or coarseness of their granularity. As regards colour, they varied from a light fawn to a deep brownish red, and, as regards granularity, from the finest powder to granules the size of ground rice.

Their chemical constitution would form the subject of further investigation.

Dr. M'Gregor-Robertson asked what kind of food the patients were taking. In a case which he had seen, in a child aged 4, the patient suffered from clonic spasms of the nature of Jacksonian epilepsy. The spasms did not yield to ordinary treatment. The motions were apparently normal, but, when examined microscopically, were found to contain large quantities of an exceedingly fine branching fibrous material, crystals of oxalate of lime, phosphatic crystals, and a large number of yellowish-brown bodies that might easily be mistaken for ova, which he could not identify, till he learned bananas were being given daily to the child. The examination of fresh bananas showed identical structures. The scrutiny of the motions also revealed the fact that the case was one of mucous colitis, and treatment of the bowel produced cessation of the attacks.

Mr. Maylard mentioned that chronic catarrhal colitis had been successfully dealt with surgically by colotomy. This procedure acted by giving the bowel a rest.

Dr. Thomson, in reply, stated that his cases had been taking all kinds of food; the first case had been on milk only. The nature of the food had no influence in the occurrence of the sand in the fæces.

VII.—EHRLICH'S OCULAR.

BY DR. J. M'GREGOR-ROBERTSON.

An account of this instrument will appear in a future issue.

VIII.—CARD SPECIMENS.

DR. J. SOUTTAR M'KENDRICK gave a demonstration of microscopical blood-film preparations.

GLASGOW SOUTHERN MEDICAL SOCIETY.

SESSION 1900-1901.

MEETING V.—22ND NOVEMBER, 1900.

The President, DR. WILLIAM WATSON, *in the Chair.*

CONSIDERATION AND DISCUSSION OF DR. ROBERTSON'S REPORT AS THE SOCIETY'S REPRESENTATIVE TO THE BOARD OF GOVERNORS OF THE VICTORIA INFIRMARY.

An extraordinary meeting of the Society was held with the special object of considering the report of Dr. Robertson with reference to the work accomplished by the Governors of the Victoria Infirmary during the year.

In the course of his address, Dr. Robertson drew special attention to the question of the advisability of making an age or time limit to the tenure of office of the chiefs of the medical and surgical departments of the Victoria Infirmary. He also made reference to the great increase in the number of people who sought advice at the dispensaries, especially at the Bellahouston Dispensary.

In connection with the latter institution, the feeling was distinctly expressed by members of the Society that there was a great abuse of charity, and that medical practitioners had a just and reasonable cause for dissatisfaction.

Throughout a long and interesting discussion, some members, speaking of the question of tenure of office, expressed the opinion that the chiefs of the staff should have an age limit. Others gave examples of gross abuses of charity at the Bellahouston Dispensary, and many suggestions were offered whereby abuses might be checked or controlled.

Ultimately, the meeting agreed to refer the whole question of hospital abuse in general to a small committee of members, whose duty should be to consider the subject in its various aspects, suggest remedies, and to report the result of their deliberations to a future meeting of the Society.

MEETING VI.—29TH NOVEMBER, 1900.

The President, DR. WILLIAM WATSON, *in the Chair.*

A CLINICAL DEMONSTRATION OF INTERESTING MEDICAL CASES.

BY DR. EBEN. DUNCAN.

In the Board Room of the Victoria Infirmary Dr. Duncan gave a clinical demonstration of interesting medical cases. Among those shown were—

1. *A case of spinal apoplexy.*—In making some remarks on this rare affection, the various causes were reviewed, such as by injury, rupture of a vessel in a soft tumour, and spinal apoplexy proper, or primary hæmorrhage into the grey matter. There was well-marked paraplegia present, with distinct absence of the skin reflexes. A cystitis had also developed, owing to insufficient antiseptic care in passing the catheter before admission to hospital.

2. *A case of acute nephritis.*—The interesting point in this patient was the successful treatment of uræmic convulsions and coma by bloodletting. Blood to the amount of 20 oz. was taken from the arm, and there followed considerable improvement in the patient's condition, which improvement has been maintained.

3. *Two cardiac cases* with well-marked murmurs, showing no previous history of rheumatic attack.

4. *A case of phthisis pulmonalis.*—This patient, it was

pointed out, had, as a soldier, taken part in the trying campaign in South Africa. He had suffered from an attack of malarial fever, from which he recovered, but while on picket duty had developed a cough, and was invalided home. At the present time there were well-marked physical signs to be found over both sides of the chest. Dr. Duncan took occasion to remark that this patient had developed pulmonary consumption in a country to which it was customary to send patients afflicted with the same disease with a view to permanent cure. Reference was made to the prevalence of the great dust-storms in South Africa, and the danger to the lungs of the repeated inhalation of the hard, gritty particles. The treatment of pulmonary tuberculosis was then referred to, special attention being made to the inhalation of formalin as an agent of curative power. In this connection the apparatus at present in use for the inhalation of the drug in the Victoria Infirmary was shown and described.

5. *A case of diabetes mellitus.*—Commenting on the treatment of this disease in general, Dr. Duncan spoke of the difficulty of keeping a patient for a long time on the usual regulated diet which experience has shown was beneficial in this affection. To this patient, in addition, he had given 12 grs. of the nitrate of uranium thrice daily, a line of treatment that was succeeded by a considerable gain in strength and in weight.

Discussion having been invited, *Dr. Alex. Napier* spoke of the climate of South Africa, and remarked that the dust-storms referred to were confined to no particular district. In his opinion, those suffering from pulmonary consumption should avoid places near the coast, and select, rather, some favourable spot at least 100 miles inland. With reference to bloodletting as a therapeutic measure, he remarked that he had found it valuable in certain cases of failure of compensation in the circulation following injuries to the thoracic wall, and in mitral stenosis.

The *President* cited instances in his own experience of the value of venesection in the treatment of uræmia following scarlet fever, and he had also seen good results obtained by the same means in a recent case of poisoning by opium. In conclusion, he conveyed the thanks of the Society to Dr. Duncan for the fine demonstration that had been given.

MEETING VII.—6TH DECEMBER, 1900.

The President, DR. WILLIAM WATSON, *in the Chair.*

A CLINICAL DEMONSTRATION OF INTERESTING MEDICAL CASES.

BY DR. ALEX. NAPIER.

The Society again met in the Board Room of the Victoria Infirmary in order to witness another demonstration of medical cases. Among those presented were—

1. A series of cases of *lupus vulgaris*, in which particular attention was drawn to the unusual softness of the resulting scar. Locally, the treatment consisted in free and thorough curetting, and thin cauterisation with the thermo-cautery. Two cases, in which the best results of all were seen, had, in addition, received injections of tuberculin. In all, constitutional treatment had not been neglected, but Dr. Napier had never yet seen much benefit from this line of treatment alone. Lately he had carefully examined in London the method of treating lupus vulgaris by the action of light; but he had to confess that he had not been very favourably impressed with the results obtained. In his opinion, excision of the affected parts was the best treatment for lupus when such could be carried out. In most cases, however, curetting and cauterisation was the best method available, but to be successful this local treatment had to be thorough and complete.

2. *A case of Jacksonian epilepsy.*—The clinical features of this affection, as seen in the patient, a little girl, were reviewed. During the evening the members of the Society had an opportunity of seeing the patient in one of the attacks.

3. *A case of hemicrania* in a boy, in whom the family history suggested the probability of syphilis as a cause. There was a history of discharge from the ear on the affected side. The various symptoms differentiating the case from epilepsy and Ménière's disease were pointed out. Treatment by the administration of antisyphilitic remedies had the effect of shortening the duration of the attacks.

4. *Description of a case of glioma of the brain.*—The symptoms of this case during life of intense frontal headache, repeated attacks of vomiting, inequality of the pupils and strabismus, had led to the diagnosis of meningitis. Treatment by tapping the cerebro-spinal fluid in the lumbar region was

carried out, and the method of doing so was described. After death, examination of the brain revealed a large glioma in the posterior region of the cerebrum. The specimen, which was shown to the meeting, was examined with interest.

5. *A case of peripheral neuritis,* in which great benefit had followed the internal administration of iodide of potassium. The symptoms presented were briefly reviewed by Dr. Napier, and, owing to the prevalence of peripheral neuritis at the present time in the Midlands, considerable interest was manifested in the case.
6. *A case of arthritis* in a girl, running a rapid course, and accompanied by serious damage to the joints. The family history bore out no special rheumatic tendency.
7. *Several cases of Graves' disease.*—In commenting on the cases shown, attention was directed to the emotional temperament of the patients, and to the movable condition of the kidneys and other abdominal organs.
8. *A case of diabetes mellitus,* in which some useful remarks were made regarding the latest forms of appropriate food-stuffs, some examples of which were shown to the meeting.

Dr. Freeland Fergus took the opportunity of remarking, with reference to the disease known as Graves' disease, that he had only seen one *post-mortem.* Examination of the cervical sympathetic nerves revealed a diseased condition.

The *President,* in a few words, conveyed the thanks of the Society to Dr. Napier for his demonstration.

MEETING VIII.—13TH DECEMBER, 1900.

The President, DR. WILLIAM WATSON, *in the Chair.*

SOME OBSERVATIONS ON THE ACTION AND USES OF THE IODIDES AND OF ARSENIC.

BY PROFESSOR RALPH STOCKMAN.

Speaking first of the iodides, Dr. Stockman remarked that probably no drug was so indiscriminately used as a therapeutic agent as iodide of potassium. As an antigalactogogue and in the diseases of goitre, syphilis, lead poisoning, and arterial sclerosis, the use of the iodides of potassium and sodium was found to be followed by good results. In other diseases, however, as cirrhosis of the liver and kidneys, fibroid phthisis, chronic neuralgia, pericarditis with effusion, and obesity, the result obtained was often disappointing. Some years ago the treatment of goitre with the iodides was found, in France, to be followed occasionally by dangerous symptoms; and the tremors, rapid heart action, and emaciation were attributed to the poisoning effect of the iodine liberated in the body.

Dr. Stockman pointed out the striking similarity of the symptoms to the condition following poisoning by thyroid extract; and he held the belief that the liberated iodine in the body directly stimulated the thyroid gland, causing an increase in the thyroid secretion, the latter of which accounted for the symptoms produced.

The nervousness and sleeplessness that sometimes affected people when residing at the seaside was due, he maintained, to the inhalation from the air of minute quantities of iodine, which, by its action on the thyroid gland, increased the secretion, and gave rise to the nervous excitability.

The action of the iodine afforded an explanation, he thought, of its value as an alterative in the diseased conditions of atheroma, goitre, syphilis, and myxœdema. He made the further interesting remark that, in the opinion of some eminent authorities whom he quoted, the well-known changes in old age were caused by the diminishing amount of thyroid secretion in the body.

With respect to arsenic, Dr. Stockman remarked that this element was constantly found in minute quantities in the hair, skin, and thyroid body, and is supposed to have a stimulating effect in nutrition. Introduced into the body, it is taken up by the white blood corpuscles, which in time become very immune to its influence. In the skin, arsenic has an irritating effect, similar to its action in bone and in bone marrow.

In the course of his address some interesting lantern slides were shown, illustrating the irritating effect of arsenic on growing bone, as seen in the increased size and thickness.

After some remarks by Drs. A. Miller, J. Stewart, Coulson Howie, and Carstairs Douglas, the President moved a vote of thanks to Dr. Stockman for his valuable address.

MEETING IX.—14TH DECEMBER, 1900.

The President, DR. WILLIAM WATSON, *in the Chair.*

CONSIDERATION OF THE ACTION OF THE GENERAL MEDICAL COUNCIL IN THEIR RECENT DECISION RESPECTING THE SALE OF DRUGS AND POISONS BY UNQUALIFIED DRUG ASSISTANTS.

Owing to the crowded attendance of members to consider the business of the evening, it was found necessary to leave the usual meeting-place in the Southern Medical Club and secure a larger hall in the vicinity.

The *Chairman*, in introducing the subject for debate, explained the reason of their special meeting, and drew attention to the various points arising out the charge against the Airdrie practitioner at the instance of the General Medical Council. He asked for a full expression of opinion by those present on the issues involved. An interesting discussion followed, in which the feeling was expressed that a very serious hardship would fall to the lot of general practitioners should the decision of the Medical Council be maintained. In the opinion of some members, the Medical Council had no *locus standi* in the question at issue, inasmuch as there had been no breach of the Pharmacy Act, and the offence, in the wording of the indictment at least, with which the practitioner had been charged could not by any method of reasoning be considered under the category of "infamous conduct in any professional respect." The open and continued hostility of the Pharmaceutical Society against the general medical practitioner was warmly commented on by various speakers. It was common knowledge that chemists and druggists were themselves guilty of the same offence, if offence it can be called, for they habitually employed unqualified assistants to help in the dispensing and sale of drugs and poisons in the course of business. The Pharmaceutical Society, it was held, should see that those whom they represented kept their own house in order before interfering with medical men in the exercise of a custom rendered prevalent by immemorial use. Various suggestions were made in the course of the discussion as to the best method of conserving their interests. A motion was proposed that this could best be obtained at the present juncture by the formation of a Medical Defence Union, but owing to the lateness of the hour, and the desire of the members for further discussion, the meeting was adjourned till an early date.

MEETING X.—20TH DECEMBER, 1900.

The President, DR. WILLIAM WATSON, *in the Chair.*

CONSIDERATION OF THE ACTION OF THE GENERAL MEDICAL COUNCIL IN THEIR RECENT DECISION RESPECTING THE SALE OF DRUGS AND POISONS BY UNQUALIFIED DRUG ASSISTANTS (*CONTINUED*).

The discussion on this subject, continued from a former meeting, was resumed before a very large attendance of members. An interesting debate took place. In addition to other points brought under review, it was shown that by an ordinary interpretation of the word "drugs," which occurs in the indictment, any medical man might be held in the same way guilty should his unqualified drug assistant sell such simple articles as Epsom salts or cream of tartar. It was also pointed out that if any breach of the law had been committed the Pharmaceutical Society had power to enforce it in a different court under the Pharmacy Acts; and that the General Medical Council should not have acted as prosecutors.

The discussion having been closed, the following resolutions were put to the meeting, and carried:—

Dr. John Brown moved "That this Society appoint a committee to draw up a representation to the General Medical Council on the points brought out in the discussion of the case of Dr. Thomson, of Airdrie."

Dr. Chas. E. Robertson moved "That the Secretary of this Society be instructed to call a meeting of the general medical practitioners of Glasgow and the West of Scotland at an early date for the consideration of the action of the General Medical Council in their recent decision regarding the sale of drugs and poisons by unqualified assistants."

Dr. Andrew Wauchope moved "That the Glasgow Southern Medical Society, believing the direct representation of the general medical practitioners of the United Kingdom on the

General Medical Council to be inadequate, humbly petition the Medical Council to represent such inadequacy to Her Majesty's Privy Council, in order that the medical practitioners of Glasgow and the West of Scotland may elect an additional representative."

It was further agreed that the Council of the Society form the committee to draw up the representation and make the necessary arrangements.

MEETING XI.—27TH DECEMBER, 1900.

The President, DR. WILLIAM WATSON, *in the Chair.*

The special committee appointed at a former meeting to consider the question of the abuse of hospitals and dispensaries laid their report before the Society. After some discussion, the following recommendation was approved:—"In addition to any other method at present in existence, or under consideration by the directors of such hospitals, that patients desiring treatment at the out-door dispensaries should obtain a printed form containing a declaration that his or her circumstances are such as warrant gratuitous treatment; and that this form be signed by the patient, and by either a subscriber, clergyman, missionary, or Justice of Peace, or be accompanied by a doctor's card or line of recommendation."

REVIEWS.

Fractures. By CARL BECK, M.D. With 178 Illustrations. Philadelphia: W. B. Saunders & Co. 1900.

ALTHOUGH upon a hackneyed subject, this book is marked by much originality and freshness. The author has made extensive use of the Röntgen rays in his study of fractures, and herein not only gives the results of his observations by their means, but adorns his pages with a great number of skiagraphs, most of which are excellent and instructive. The paragraphs devoted to the description of treatment form the least satisfactory part of the book, but the explanation of the defects of this department lies in his regarding reduction of the fracture as of infinitely greater importance than fixation. We cannot say that in this respect he is wrong, for he reflects what is the growing opinion among the surgeons of the present day. Hence the importance of the Röntgen rays, for by their aid we can make out the true nature of the displacement, can see how the displaced fragments may best be reduced, and can ascertain if reposition is satisfactorily accomplished. In regard to the much discussed question of the advisability of using wire sutures, steel pins, or screws in the treatment of simple fractures, he takes a moderate and wise position when he expresses himself as follows:—"While under the auspices of asepsis such treatment need not be followed by any reaction, and might, in the hands of competent masters, give excellent results in suitable cases, such tendencies must be regarded as surgical aberrations. It is only where much diastasis is present, as in fracture of the patella or olecranon, when bony union appears improbable, that such rigorous interference is demanded. But by our recent means of making a positive diagnosis possible in all cases, it is usually just as easy to obtain a perfect result by simple bloodless reduction and by thorough immobilisation."

Dr. Beck points out a feature of Colles' fracture which has hitherto escaped notice, and that is the frequency of fissure-fracture of the capitulum ulnæ; it is of little importance, and its presence has only been ascertained by the use of the Röntgen rays.

In speaking of gun-shot fractures, he makes the following curious reflection:—"When modern firearms were introduced, it was predicted that injuries in war would be more humane than they had been. The size of the new bullet being reduced from 0·7 to 0·3 inch, its rate of projection increased from four to six hundred inches in a second, and its penetrating force being made about six times greater, it was believed that the thinness and the great force of the bullet would cause a clean, round, canal-like foramen. This was proved to be an error by the experiments of the author made in February, 1896, at Governor's Island, N.Y. As soon as the author had a chance to utilise Röntgen's discovery, he studied the form and degree of destruction produced by the new army rifle (Krüg-Jörgensen) in the following manner. Thanks to the courtesy of the officer in charge at Governor's Island, the author was enabled to skiagraph leg and skull immediately after they were shot at by a soldier of the garrison at various distances. Contrary to all theories, the bones, as well as the soft tissues, showed the most destructive effect." Now, the extensive experience we have lately had in South Africa has abundantly proved that those were right who held that the small bullet and the other conditions mentioned above would certainly lead to the missile doing comparatively little damage. How, then, does Dr. Beck make this mistake? Plainly, we think, because the bullet in his experiments was fired at close range. He gives a figure (Fig. 36) which "shows the tibia at its lower third transformed into a mass of bone splinters," but the bullet *was fired from a distance of fifty yards.* This quite accords with experiences in South Africa, where more serious injury to the bone was found to be produced by bullets fired at close ranges than that at long ones.

In an appendix of fifty pages, the author gives an elaborate and highly interesting account of the "practical use of the Röntgen rays." He deals at considerable length with difficulties in their use, and errors in the interpretation of the skiagraphs, and gives an account of a case in which the presence of an *os intermedium tarsi* was mistaken for a split-off fragment of the astragalus.

In regard to the localisation of foreign bodies his description is very incomplete and unsatisfactory. He says—"For locating foreign bodies, apparatus have been devised by Hoffman, Levy-Dorn, Sehrwald, and Augerer. The author has thus far been able to locate foreign bodies in the simple manner described on page 265." On turning to that page, we find that in the description of a case in which a bullet was located in the left pterygoid process, he says—"The distances were measured during the operation simply with a graded probe first, the distance between the nasal bone and the bullet being taken at the first skiagraph, which determined the direction and extent of the skin incision, and then the same distance being taken from the side skiagraph which dictated the depth of the incision." This is wholly unsatisfactory. It would appear that he has no knowledge of the Mackenzie-Davidson localiser, with which such excellent results have been obtained. The author speaks of the use of metal numbers and letters in localisation, and refers us to Fig. 174 as illustrating this, but no letters or numbers are shown in that figure. Fig. 94 is described as showing "supra-condylar fracture of the first metatarsus of the little finger," whatever that may mean.

In spite of a few minor errors, such as those we have quoted, the book is (as we have said) interesting and valuable.

On the Use of Massage and Early Passive Movements in Recent Fractures and other Common Surgical Injuries, and the Treatment of Internal Derangements of the Knee-joint. Three Clinical Lectures delivered at St. George's Hospital, by WILLIAM H. BENNETT, F.R.C.S. London: Longmans, Green & Co. 1900.

The Present Position of the Treatment of Simple Fractures of the Limbs. An Address delivered in Opening a Discussion at the Meeting of the British Medical Association, held at Ipswich, August, 1900, by WILLIAM H. BENNETT, F.R.C.S. London: Longmans, Green & Co. 1900.

THESE two booklets treat of essentially the same subject, for the main theme of Mr. Bennett's address to the Surgical Section of the British Medical Association is the "use of massage and early passive movements in recent fractures." It may be assumed that most surgeons connected with hospitals have for years past employed massage in the *late* treatment of fractures of the limb bones; what Mr. Bennett advocates is the *early* use of massage and passive movements, and it must be admitted that the facts and arguments he adduces are worthy of consideration. If these modes of treatment are employed to prevent adhesions, instead of being used to get rid of them when they have formed, the results will necessarily be much better, and, presumably, the patient will be sooner able to return to his work. We have in large measure got rid of the old fear that non-union will result from such movement and such interference with the rigid fixation which for long was held to be essential to perfect union; and the main drawback in the carrying out of massage is the constant attention, and the hard labour entailed on nurses and on medical attendants (chiefly on the latter).

Mr. Bennett's criticism on wireing and the use of nails and screws in fractures is just and weighty, and we quite agree with his cautious practice of reserving them for special cases, where the fractured bones cannot be kept in place by other means.

On "internal derangements of the knee-joint" he speaks with some authority, having observed and taken notes of 200 cases. In this series of cases he found it necessary to operate only on 35, and he, in the lecture before us, dwells at some length on the conditions which, in his mind, justify an exploratory operation. These are—(1) Cases in which non-operative measures have failed to cure; (2) cases in which general flaccidity of the joint is in excess of other symptoms; (3) cases of expediency, in which an early attempt at relief is urgently called for by special circumstances; and (4) grossly neglected cases, in which from long-continued inflammation the joint has assumed the aspect of pulpy disease.

While Mr. Bennett's theories and practice do not always accord with our own, we admit that both his reasoning and the methods of treatment he adopts are distinguished, as a rule, by caution and discretion.

A Manual of Surgical Treatment. By W. WATSON CHEYNE, M.B., F.R.C.S., F.R.S., and F. T. BURGHARD, M.D. and M.S. Parts III and IV. London: Longmans, Green & Co. 1900.

THE third and fourth parts of this important work have appeared at so short an interval (notwithstanding Mr. Cheyne's absence in South Africa) that it falls to us to review them together. The third part treats of the surgical affections of the bones and of amputations, the fourth describes the treatment of the surgical affections of the joints (including excisions) and those of the spine. We recognise the fairness of the protest entered by the authors in the preface to the fourth part as to the criticisms passed on them for their "errors of omission." They clearly state in the general preface that "only those plans are described which our experience has led us to believe are the best;" and it is inevitable that the experience of others should be different from theirs. They are, however, still open to criticism when they fail to take note of any obvious improvement in treatment, or persist in an old plan when a newer has proved to be distinctly better. Thus, in describing amputation through the hip-joint, they speak of two modes of controlling hæmorrhage, both of which are clumsy and ineffective, and make no mention of the compression of the abdominal aorta by means of the closed fist, although the latter method (first described by Macewen) is far and away the simplest and most satisfactory.

Fractures of the patella the authors consider should in all cases be treated by operation, because by no other method can osseous union be obtained. That fact is indisputable, but it is quite certain that greater risks are run in cases operated on, and that in those not so treated satisfactory results as regards locomotion are often obtained. The truth is that much depends on the amount of tearing which the lateral expansions of the quadriceps tendon have undergone; for, if those expansions are little implicated, the patient will have excellent power of extension in spite of separation of the patellar fragments. Such cases may therefore safely be treated by other than operative methods. Then, there are considerations of age, general health, &c., which must not be overlooked, as adding to the operative risks, and we consider the authors have unwisely shut their eyes to these important considerations.

They speak very highly of bone-grafting as a means of repair when nearly the whole of the shaft of a long bone has been destroyed by osteo-myelitis, and recommend that the new bone should be obtained from a young dog or other animal, and not from another patient, asserting that in the latter case there is a liability to the transmission of disease. Their satisfaction with bone-grafting is, however, seriously discounted by the acknowledgment that in many instances so much atrophy of the new bone takes place that the limb is left very powerless.

We can almost unreservedly commend the section on the diseases of joints. It is a difficult subject, but the authors have shown sound judgment and thorough knowledge; their exposition is, moreover, distinguished by lucid description and wise dogmatism.

The two sections of the work now before us in every respect maintain the high level of the former volumes.

The International Text-Book of Surgery, by British and American Authors. Edited by A. PEARCE GOULD and J. COLLIS WARREN. London: Rebman, Limited. Philadelphia: W. B. Saunders. 1900.

THE aim of the editors "has been to produce a reliable text-book of surgery, embodying a clear but succinct statement of our present knowledge of surgical pathology, symptomatology, and diagnosis, and such a detailed account of treatment as to form a reliable guide to modern practice. While not aiming at the merely novel, they have carefully omitted antiquated methods, and they hope that the reader will find in these pages only what is practically useful to-day."

Of the two handsome volumes before us, the first is devoted to general and operative surgery, while the second treats of special surgery in its various branches.

The opening chapters of the first volume deal with surgical pathology, and while that on bacteriology is both carefully written and well illustrated, we would draw special attention to the article on surgical pathology of the blood. In this the subject of leucocytosis naturally occupies a prominent place. Wounds and specific infective conditions are next considered. We are surprised to find, in the section on repair of special tissues, no account of the regenerative processes in nerves, although the changes in degeneration occupy at least a page; the paragraph, also, on regeneration of glands, while well done, is somewhat brief.

The chapters on operative surgery are well illustrated, although we cannot help observing the discrepancy between the description of Syme's amputation in the text and Figs. 102 and 103, where the ends of the plantar incision come well up above the points of the malleoli. Again, in describing osteotomy, the "outer" side of the left hand should read "inner" (p. 370), while on p. 372 we are told that we may drive the osteotome "into the bone," and then turn it into position.

No writing is immaculate, but the following is quite inexcusable, both statements occurring in the same article:—" . . . Emboli set free from thrombi in the sinus-phlebitis of otitis do not produce secondary abscesses" (p. 151); while " . . . masses of the coagulum may act as emboli, setting up metastatic disease at different points" (p. 161). With a view to prevention of bedsores, "an old woman with an intracapsular fracture of the femur should be got up into a chair in spite of there being no union" (p. 234). This is certainly *not* "modern practice."

The remaining portions of this volume are devoted to the surgery of the various anatomical systems of the body. On turning to the second volume, one is met with detailed accounts of the surgery of regions. This naturally traverses, to a certain extent, ground already covered in the preceding volume, and it would have been well to have furnished the text more fully with cross-references.

Abdominal surgery and gynæcology occupy a large portion of this volume; the concluding chapters deal with military, naval, and tropical surgery.

When a book is made up of articles by various authors, one expects to find conflicting views where these articles, as they must, overlap one another. In spite of this occurring here, we are struck with the general conformity of opinions expressed, this being doubtless due in part to the "careful scrutiny of the manuscripts" by the editors.

In both volumes there is a wealth of illustrations. Those in the text are in most instances excellent, but we cannot say the same for the coloured plates, with the exception of those representing microscopical subjects.

The text is well arranged, recent investigation and opinion being inserted in small type.

We congratulate the editors on the realisation of their aim, and on the production of that *rara avis*—a first-class and readable book on surgery.

Angioma and Other Papers. By JOHN DUNCAN, M.A., LL.D. Edinburgh: Oliver & Boyd. 1900.

IT is a long time since we have read a book which has afforded us as much pleasure as the one before us, comprising several short papers on subjects dealing with practical surgery. One or two of these are of recent date, though the majority are reprints, some of them dating back twenty years or more, but all are admirable; in style, lucidity, and logical discussion of facts, they appear to us to be models of what clinical essays should be.

Nothing could be better than the account of the structure and clinical history of capillary angiomata; and in discussing the treatment a good case is made for the employment of electrolysis, with which the author's name has long been associated, and with which he had such marked success. A short paper on "Inflammation" is very interesting, as showing the thoughts of the author on this complicated subject; so is that dealing with "Epithelioma of the Mouth" (written as far back as 1888), in which, arguing from his clinical experience, he goes in strongly for the infective nature of malignant disease. Two short papers refer to his own method of treating fistulæ, artificial anus, &c., by plastic operation, the principle underlying which is the foundation of several modern operations of great utility, while in the reprints dealing with the treatment of wounds, we see how thoroughly he appreciated and understood the advantages to be gained from the antiseptic system at a time long before it would appear to have made much impression on the majority of surgeons.

We learn from the editor's preface that it had been the intention of the author to write a book dealing with clinical surgery, and we think that no one who reads this book can fail to regret that the idea was not destined to be fulfilled, for few men were better qualified to place their opinions on record than John Duncan, who was not only a surgeon of the first order, but a man of the widest culture, who could consider facts and theories squarely, and form his conclusions absolutely without bias.

This collection of his papers is eminently worth reading, and is certain of a warm welcome from the large number of men who enjoyed the privilege of being members of Mr. Duncan's class.

Flesh Foods, with Methods for their Chemical, Microscopical, and Bacteriological Examination. By C. AINSWORTH MITCHELL, B.A. Oxon., F.I.C., F.C.S. London: Charles Griffin & Co., Limited. 1900.

INTO this work the author has practically crowded everything of consequence which has been written in connection with the flesh of animals used for human food. He has culled from many sources, but all are cognate to his subject. The purpose of the book will be best exhibited, perhaps, by making a rapid review of the principal chapters. The opening chapter deals with the structure and chemical composition of muscular fibre, its proteid and non-proteid, and its organic and inorganic constituents, and the second embraces a consideration of the structure and composition of osseous, adipose, and connective tissues, and of blood; and, in respect of the last-named, the author describes the crystalline characters of the oxy-hæmoglobin of different animals, the modes by which this hæmoglobin may be estimated, either by means of the iron which the ash of blood contains, by colorimetric tests against standardised solutions of pure oxy-hæmoglobin, or by standard colour-glasses. A very interesting chapter is that which deals with the flesh of different animals. In it he describes the characters of the flesh and fat of those animals most commonly used as food by man, of horse-flesh, of the flesh of wild animals, such as that of the bear, and of the more common wild animals, as the hare, rabbit, duck, &c., in addition to the flesh of vertebrate fish, and of invertebrate animals, as crabs, oysters, mussels, and snails. Casually, we note the absence of special notice of goat's flesh, which is of common use in certain Continental countries, with the exception of a bare reference to a statement by Walley.

At page 49 we note a curiously misplaced reference. The author, writing on the influence of sex upon the qualities of the beef, states that the flesh "of the bull has a rank, strong taste, and in consequence bull-beef may only be exposed for sale in this country with a plain notification as to its nature," and, by means of an asterisk, points the reader for his authority for the statement to a footnote containing the reference, "Public Health Act, 1875, section 261." Not being aware of the above being part of the law, we referred to the Act quoted, to find, however, that this section deals with "Proceedings for the recovery of demands below fifty pounds, which local authorities are empowered to recover in a summary manner" in a county court. The sections of the Act which deal with the inspection of meat are 116 to 119 inclusive, but in none of them is any such prohibition or restriction laid down; indeed, we are not aware that such is to be found in any Public Health Act.

In dealing with the subject of horse-flesh, the author gives the main provisions of the Sale of Horse Flesh Act, 1889—which also embraces the flesh of asses and mules—details the main characteristics of the flesh of the horse, and, in another chapter, states the methods whereby such flesh may be detected in sausages. In this connection, it ought to be noted that a considerable export trade in this flesh to the Continent is carried on from this city. The author omits, however, to give any information how the heart and tongue of the horse may be distinguished from the same organs of the ox. Incidentally, he discusses "braxy mutton," the ripening of game, and the "heating" of game. In the latter phenomenon, which is characterised chiefly by the green discoloration of the skin, the acid reaction of the flesh, and interstitial development of gases in the tissues, he hazards the opinion that it is not due to an ordinary putrefactive process, because no ammonia is produced. It appears to us, however, that it is distinctly allied to the same discoloration which is produced in the dead body in the earliest manifestation of putrefaction, and that it is due to the formation of sulphur gases and their union with the potash and iron of the blood and cyanogen from nitrogenous decomposition of the tissues. It is noteworthy that Eber succeeded in imitating the phenomenon by injecting into dead tissues a ·05 per cent solution of potassium sulphide. In dealing with fish, we miss any reference to the differentiation of fresh from stale fish at the doubtful stage. Green oysters, as pointed out by the author from the researches of others, are not necessarily "coppered." That all oysters contain small quantities of copper is undoubted, but the coloured oysters do not contain a greater percentage than the colourless. The green colouring pigment has been, in

Marennes oysters, called "Marennin," and its presence has been attributed by certain observers to a diseased condition of the blood of oysters, which they have termed "green leucocytes."

In a succeeding chapter, consideration is given to the colours of normal and abnormal flesh, and to the causes of both, whether from disease, the action of bacteria, or from artifice. It is well known that in the preparation of sausages, the addition of artificial colouring agents is by no means uncommon, probably more on the Continent, however, than in this country. Such substances, for example, as cochineal, carmine, and aniline dyes, not to speak of nitre, are commonly used in Germany. The rule which Marpmann has laid down is a safe working rule, viz., to consider as suspicious all sausages which remain unchanged in colour after being kept two hours in 50 per cent alcohol, since natural flesh is thus decolorised. One of the most important subjects treated in the book is that of unsound meat. Unsoundness may obviously arise from a variety of causes, and may generally be classified into those which arise *ab initio* in the animal itself, and those which are produced by external factors. The author follows Letheby in his description of sound flesh. While he does not believe that the diseased flesh of animals can be unmistakeably detected by chemical means, he states at length Eber's researches on this subject, and gives the tests upon which that observer relied for the detection of unsoundness. Eber's test consists in the detection of hydrogen sulphide in the flesh, and is as follows:—A portion of the meat to be examined is chopped up finely, and is placed in a flask with dilute sulphuric acid. Over the fluid is suspended a strip of filter-paper soaked in 10 per cent solution of lead nitrate, the mouth of the flask is plugged with cotton-wool, and the flask and contents are placed in a dark place where there is free access of air of a temperature of 54° to 64° F., but no draught. At the end of twenty-four hours, the slip is taken from the flask and compared with a standard scale of colours, which the author gives in the frontispiece of the book. This test is based upon the fact that in the diseased flesh of animals, especially of those which are tuberculous, the sulphur compounds seem to be more loosely combined than in the flesh of healthy animals. In addition to the foregoing, there is the litmus test for acidity and alkalinity. It is well known that during *rigor mortis*, and for a short time thereafter, the reaction of flesh is acid, and that the onset of putrefaction is heralded by alkalinity, due to the liberation of ammonia.

Eber tested for ammonia by the formation of cloudy fumes of ammonium chloride with a test mixture composed of hydrochloric acid, 1 part; alcohol, 3 parts; and ether, 1 part.

The use of meat preservatives is discussed at some length. For temporary preservation, the sulphites or sulphurous acid are most commonly used, and boric acid and borates for more permanent preservation. "Borated" hams, for example, are now by no means unknown in the market.

The larger question of meat-preservation is left for another chapter, under the heads of preservation by cold, by drying, by salting, by smoking, by "canning"—or, as the author prefers to term it, heat-sterilisation and the exclusion of air—and, lastly, by antiseptic agents. It is a mistake to suppose that all micro-organisms are destroyed by intense cold; the recent experiments of M'Fadyen of the Jenner Institute have clearly demonstrated that fact; at the same time, their action, growth, and development are inhibited. As it is nowadays of some importance to be able to detect the difference between frozen meat and natural meat, the microscopic test of Pouchet-Maljean will solve the question. In frozen meat the blood corpuscles are ruptured and decolorised, while in natural meat they are unruptured and normal in colour; in other words, in the former condition we see colourless broken corpuscles floating in a coloured fluid, in the latter, coloured whole corpuscles in a colourless fluid. For the same reason, when a piece of frozen meat is put into a test-tube containing cold water, a reddish coloration is more quickly imparted to the water than in the case of natural meat. Neither does salting or smoking destroy micro-organisms in any great degree. By the former mode of treatment, pathogenic organisms, not to speak of the spores, will live for periods of weeks and months in the pickling fluids. The author, too, discusses the value of canned goods, and, generally, considers the risks of poisonous effects from metallic contamination of their contents, and from toxines of bacterial production; in like manner is considered the detection of chemical preservatives.

Into the analytical methods of examining flesh foods we need not follow the writer very far; they must be carefully read, but none of them are new. The only point to be noted is that, in the estimation of "total nitrogen," where nitrates have been used for the preservation of the meat under examination, a modification of Kjeldahl's or Gunning's method must be adopted, such as Iodlbauer's, in which salicylic acid or phenol is previously dissolved in the sulphuric acid used. The author has carefully collated the best researches on the digestibility of different kinds of flesh *in vitreo*, and has given consideration to the calculation of food-values of flesh and the bases upon which they ought to be made.

A long chapter is devoted to the analysis of animal fats.

The composition and analysis of sausages, too, receive consideration in another whole chapter. We are not yet acquainted in these islands with the very various and wonderfully composite productions of the Continent, but the commercial interchange of trade products is beginning to initiate us. We must, however, refer the reader to the book itself for a large amount of useful information upon this subject.

We would commend, also, the reader to carefully peruse the chapter on meat extracts and flesh peptones. While it is impossible in a review like this to deal fully with the views of the author, we cannot refrain, from a large number of analyses made by ourselves, from saying that we heartily concur in his view that meat extracts have hitherto received exaggerated values as food-stuffs, which are entirely unwarranted. They are at best but food-stimulants.

After dealing with the modes of cooking flesh foods and their effects, the author brings under review the various causes which render flesh food poisonous in action, devotes much attention to the parasitism and bacteriology of flesh, and, in the last chapter, condenses the modes of separating ptomaines.

In conclusion, we congratulate the author upon having compiled judiciously a very compendious book, which will prove of undoubted use to many workers in the public health service; and, while many writers of different countries have been drawn upon, the author has succeeded in reducing his material into working compass, and in an orderly manner.

Medical Electricity. By H. LEWIS JONES. Third Edition.
London: H. K. Lewis. 1900.

THE third edition of this excellent manual upon medical electricity has been entirely recast. This was rendered necessary, the use of electricity in medicine and surgery having been largely extended since the appearance of the second edition.

Dr. Lewis Jones' book is a valuable contribution to electro-medical literature, and is in all respects up to modern requirements. The chapters dealing with fundamental experiments, statical electricity, diagnosis, and general therapeutics are well arranged and thoroughly instructive. The section on the Röntgen rays is equally satisfactory, but the description of the localisation of foreign bodies is somewhat meagre.

This is a good practical work, written for students and practitioners, and well adapted to supply the needs of those to whom it is addressed.

A Manual of Medicine. Edited by W. H. ALLCHIN, M.D.Lond., F.R.C.P., F.R.S.Ed. Vol. II: General Diseases (*continued*) —Diseases caused by Parasites; Diseases determined by Poisons introduced into the Body; Primary Perversions of General Nutrition; Diseases of the Blood. London: Macmillan & Co., Limited. 1900.

THIS volume contains about 60 pages less matter than Vol. I, but it is in every way as attractively got up, and is furnished, like its predecessor, with two excellent coloured plates. It opens with the definition and classification of parasites, animal and vegetable. The latter have been considered for the most part in the earlier volume, in connection with the infections, and the more important of the former are now discussed from both the zoological and the clinical point of view. After this we have a consideration of poisoning by meat, diseased cereals, alcohol, opium, various metallic substances, noxious gases, and the venom of serpents.

The editor writes on primary perversions of general nutrition, on autogenetic poisons (uræmia, cholæmia, &c.), and on retrogressive and progressive changes. Inflammation and its sequelæ are discussed by Dr. Lazarus-Barlow, malignant disease and obesity by the editor, and the ductless glands and their diseases (including exophthalmic goitre) by Dr. J. Rose Bradford. Diabetes is dealt with by Dr. Bertrand Dawson, who gives, we think, too little consideration to Dr. Pavy's views. We doubt if the glycogenic theory is one whit better founded than the other. Though the occasional lesions of the pancreas and nervous system are mentioned, there is no allusion to what Dr. Workman regards as the most constant feature in the morbid anatomy of diabetes—namely, hypertrophy of the mucous membrane of the duodenum. A good account of gout is supplied by Dr. Luff, who is followed by Dr. Dawson on rheumatoid arthritis. Dr. Coutts writes on rickets, and Dr. Raymond Johnson contributes a series of short articles on some rare diseases, such as acromegaly and leontiasis. Dr. Louis Jenner deals with the normal blood, and the methods of examining it clinically. The very important section on diseases of the blood, which concludes the text of this volume, comes from the pen of Dr. Sidney Coupland. This class of diseases is considered first in a general way with respect to their pathology and etiology, and then as divided into two groups—anæmic and hæmorrhagic. Thereafter the individual affections belonging to the two groups are separately described—namely, in group one, chlorosis, pernicious anæmia, leukæmia, splenic anæmia, and Hodgkin's disease; and in group two, hæmophilia, purpura, scurvy, and paroxysmal hæmoglobinuria.

The coloured plates to which we have referred contain ten microscopic fields—some single and some composite—illustrating the human blood in health and disease. The volume is furnished with its own index.

Hernia: Its Etiology, Symptoms, and Treatment. By W. M'Adam Eccles, M.S. Lond., F.R.C.S. Eng. London: Ballière, Tindall & Cox. 1900.

In this book, the author, as he tells us, has been at special pains to consider the aspect of actual treatment. He begins with an ordinary plain account of hernia, in which he gives the causes, clinical states, and a description of the anatomical varieties, very much on the lines of a text-book on general surgery. This is hardly what one expects in monograph; one looks for a discussion of theories and opinions which have been put forward, and also for some expression of individual experience; but there is practically nothing of the kind here, even in those parts of the book concerned with the diagnosis between hernia and other conditions simulating it, there is no discussion of signs which are often anomalous and require qualification, the diagnosis in most instances being given in tabular arrangement, which, though it may be useful at times, fails on account of the incompleteness of the statements which the tables contain.

We do not share the doubts expressed by the author regarding the possibility of strangulated omentum leading to signs of intestinal obstruction, and think that the arguments he adopts against this possibility are refuted by his description, farther on, of the symptoms produced by torsion of the spermatic cord, which he admits closely resemble those of strangulation of bowel.

The best part of the book is that dealing with the treatment of hernia by trusses, and this is gone into very fully. The author, from his position as surgeon to the City of London Truss Society, has abundant opportunities for experience in this direction, and he gives very clear directions for the management of cases in this manner, and as these chapters are admirably illustrated by full-page plates taken from photographs, a good idea may be obtained of the numerous mechanical appliances that have been devised in this direction.

The operative treatment is not so satisfactorily dealt with. The author appears to us to be very conservative in his ideas as to the necessity for a "radical operation." The method of operating which he advocates for inguinal hernia, and describes at some length, does not seem to us to be ideal, while the account of the operations which are best known and probably most widely adopted is very poor; they are all—Halsted's Bassini's, Macewen's, and Kocher's—dismissed in practically one page.

The description of the rarer varieties of hernia is short and unimportant. We confess that we are disappointed with the book, though we have no doubt it will be of service to those who desire information regarding the best kind of truss to employ in special cases, and the manner in which they should be applied.

The book is well got up, the printing is clear, and the illustrations throughout are excellent.

On Some Cirrhoses of the Liver: Being the Lumleian Lectures for the Year 1900, delivered before the Royal College of Physicians, London. By WALTER BUTLER CHEADLE, M.A., M.D. Cantab. With Illustrations. London: Smith, Elder & Co. 1900.

THESE lectures have already appeared in abstract in periodical literature, but we are glad to have the opportunity of studying them anew in their extended form. Dr. Cheadle, in his first lecture, points out a number of questions with regard to the various cirrhoses of the liver that still wait for determination, and then discusses at length three principal forms—atrophic, hypertrophic, and syphilitic. He shows that the hypertrophic and atrophic forms of alcoholic cirrhosis are to be regarded as distinct varieties rather than different stages of the disease, and that their symptoms are in the main alike; while the so-called biliary cirrhosis described by the French is rare in this country, if indeed it exists at all. Dr. Cheadle points out how very apt syphilitic cirrhosis is to be mistaken clinically, and he believes that the presence of perihepatitis, as indicated by pain, tenderness over the liver, and pyrexia, is a valuable diagnostic sign, as being more marked and more frequent in syphilitic than in other forms of cirrhosis.

In the second lecture it is shown that in cases of cirrhosis other organs than the liver suffer, and, in particular, we may mention the heart and kidneys. Subjects of this disease are also regarded as specially susceptible to erysipelas and tuberculosis.

The subject of prognosis is treated of at length, and it is shown that this is particularly unfavourable in atrophic cases that have reached the stage of ascites, though even then the possibility of years of good health is not excluded. The favourable cases, however, of hepatic cirrhosis are characterised, as a rule, by enlargement of the liver, and probably by a comparatively acute morbid process, by earlier age of the patient, by absence of cachexia, and by an association with hard drinking or with syphilis.

The concluding lecture deals with treatment by diet, by drugs, and by paracentesis, the last of which is strongly advocated as a measure to be resorted to early. Some very encouraging cases are given in support of this mode of treatment.

Besides a few other illustrations, this volume contains twelve coloured plates, which are beautifully executed, and constitute a valuable addition to the text.

A Treatise on Appendicitis. By JOHN B. DEAVER, M.D. Second Edition. Illustrated with 22 Full-page Plates. London: Rebman, Limited. 1900.

THE second edition of this comprehensive treatise on appendicitis has been greatly enlarged, chiefly by the addition of an exhaustive chapter on the pathology of the condition, extending to some 120 pages, from the pen of Dr. A. O. J. Kelly, Director of the Pathologic Institute of the German Hospital, Philadelphia. This is, indeed, a notable contribution to the literature of appendicitis, and is divided into four sections, viz., (1) the lesions of the appendix, (2) the peritonitis and its consequences, (3) the bacteriology, and (4) the pathogenesis. The plates add very materially to the value of the work. The chapters on diagnosis, differential diagnosis, prognosis, and treatment are all good, but the feature of the present edition is the chapter on pathology, which every practitioner should study.

Our readers will also be interested in the chapter on treatment, which may be briefly adverted to as follows. The chapter is a thoroughly comprehensive and commonsense one, with, as is natural, a bias towards early removal of the diseased appendix. Dr. Deaver favours removal "early in the attack—that is, within the first twenty-four hours, or, preferably, within the first twelve hours." There is, however, he admits, a "class of cases in which, particularly in the hands of general practitioners, the treatment by medical, as opposed to surgical, means is the part of discretion." We cannot help thinking that in such cases medical discretion will frequently be the better part of surgical valour. Notwithstanding his uncompromising recommendation of early removal, the author gives a most valuable account of the medical treatment, an account which, generally, we entirely approve of. He is in favour of thorough evacuation of the bowels early in the attack by castor oil, calomel, or salines. He favours the use of a local application of the ice-bag, a procedure the value of which we are not quite sure of; and he entirely condemns the use of opium, and, for the most part, we agree with him in this. The whole work is a most valuable one, and we heartily recommend it.

The Clinical Examination of Urine, with an Atlas of Urinary Deposits, including Forty-one Original Plates, mostly Coloured. By LINDLEY SCOTT, M.A., M.D. London: J. & A. Churchill. 1900.

THE author has succeeded in producing a most useful volume, useful alike to the physician in the wards or to the private practitioner in his consulting room. The first part of the volume contains an account of the methods of examining urine for clinical purposes, and calls for no special comment, as it is similar to that found in other well-known works on the subject. Indeed, in some respects we think it is not so good. We do not think that the picric acid test, as described on page 25, is likely to be accurate in its results, and the test by nitric acid and heat is one that must be most difficult to apply. The difficulty lies in the fact that we have nothing to guide us as to how much nitric acid should be added. We never employ the test. We have nothing, however, but praise for the excellent plates, 41 in number, which form the atlas of urinary sediments. These constitute the great merit of the book, and will be of great service to student and practitioner alike.

What to do in Cases of Poisoning. By WILLIAM MURRELL, M.D., F.R.C.P. Ninth Edition. London: H. K. Lewis. 1900.

THE first edition of this work was published in 1881; the eighth about two years ago. Its reputation is so widespread and of such standing that words of commendation from us are needless. It is enough to say that this booklet is admirably got up, and ought to have a permanent place in the bag, or close to the hand, of every medical practitioner.

The British Sanatoria Annual. With Numerous Illustrations. Second Year of Publication. London: John Bale, Sons & Danielsson, Limited. 1900.

THE great interest that is now being taken in the open-air treatment of phthisis, and the large number of institutions now open with this special purpose in view, fully justify the annual issue of a volume such as the present. It gives information of the very kind required by doctors, patients, and their friends. Thirty-one institutions are described, including those in Ireland and five in Scotland. The last are the Consumptive Sanatoria of Scotland, at Bridge of Weir; Knocksualtach Sanatorium, at Kirkmichael, near Blairgowrie; the well-known Nordrach-on-Dee; the Victoria Hospital for Consumption, Craigleith, Edinburgh; and Woodburn Sanatorium, at Morningside, Edinburgh. In conection with the description of Nordrach-on-Dee, it is stated that "leading German physicians have for years been sending patients to Deeside, and are now doing so in yearly increasing numbers." The treatment introduced by Brehmer some forty years since, and now associated with the name of Otto Walther and the sanatorium at Nordrach in the Black Forest, has obtained a firm footing in our islands, and cannot be ignored by the public, whether practitioners or laymen. The best way to learn about it, apart from visiting the institutions, is to procure this volume with its authoritative descriptions and excellent illustrations.

The Guide to South Africa. With Coloured Maps, Plans, and Diagrams. Edited annually by A. SAMLER BROWN and G. GORDON BROWN, for the Union Castle Mail Steamship Co., Limited. 1900-1901 (Eighth) Edition. London: Sampson, Low, Marston & Co., Limited. 1900.

FOR half-a-crown we have in this book more than four hundred pages of most valuable information, in which everyone is sure to find something of interest. The war has brought things in South Africa into such a state of flux that the editors have been well advised in postponing a description of the great military campaign still in progress. The activities of the mines, the railways, and other tourist traffic have naturally been completely disarranged, so that in some details this volume does not possess its accustomed value, though we earnestly trust that the reason for this will soon cease to exist. Apart from these considerations, however, this "Guide" should be studied by everyone who is interested in South Africa, be he traveller, emigrant, invalid, physician, engineeer, miner, shareholder, sportsman, fortune hunter, or unemployed. It should prove of service to many besides the great steamship company in whose interest it is primarily compiled.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

MEDICINE.

BY JOHN G. GRAY, M.D., F.F.P.S.G.

Rheumatism in Children.—The *Deutsche Medizinal Zeitung*, 11th October, 1900, takes special note of a contribution on "Acute and Chronic Rheumatism in Children," by Dr. Curt Lachmanski, which appeared in *Archiv. f. Kinderheilkunde*, 1900, Bd. 28. The following are the principal points referred to:—

In all, 73 cases of acute rheumatism were under observation and treatment in hospital; an examination of these formed the groundwork of the greater part of the paper. Sex was found to have no influence as regards the causation of acute rheumatism in children, the number affected being approximately the same in both. With regard to age, in the latter half of childhood the number of cases in which that disease appears is increased five-fold, and during the first half of childhood it is by no means rare.

Then as regards the time of year, it is found at all periods, and during all months. It is, however, most frequent in autumn, and the order of frequency is winter, summer, and lastly spring.

Of contributory causes, cold must be placed first. Four of the cases referred to were distinctly traceable to the influence of cold.

Hereditary influence was established in 5 out of the 73 cases. A tubercular family history was obtained in 10 cases, 2 of whom presented evidence of phthisis.

In the case of 3 there was a neurotic family history, and in 2 of those a history of locomotor ataxia.

The prodromata, as in almost all the other diseases of infancy and childhood, are manifold. The disease is frequently ushered in quickly, with pyrexia; occasionally the onset is gradual, and pain in the joints is not complained of for fourteen days after the commencement of the patient's illness. The chief early symptoms are *malaise*, a feeling of weakness, disinclination for play, sleeplessness, and restlessness; marked pallor is observed, and patient may complain of headache, or of pains throughout the body, or pains in the loins. Epistaxis occurred in a few instances several days before the commencement of an attack, or immediately preceding it, without being in any way due to disease of the heart.

On one occasion a rash, consisting of isolated spots, appeared before the joints became affected. It disappeared on the following day.

The disease was frequently accompanied at its outset by symptoms of digestive derangement, such as vomiting, pain in the abdomen, and occasionally diarrhœa. When uncomplicated with endocarditis or pericarditis, the disease is, as a rule, of a distinctly mild character as compared with acute rheumatism in adults.

The symptoms which accompany the disease are for the most part identical with the prodromata. They are—a general feeling of discomfort, digestive derangements, pain in the abdomen, with, at times, great tenderness on palpation.

Abdominal pain in children in connection with rheumatism is to be accepted with reserve, according to Baginsky, as it may refer to either hip-joint. A striking and very frequent sign, which is usually observed a few days after the onset of the disease, is pallor; it is present even in children with chubby faces, and the author regards it as almost pathognomonic.

The bodily vigour and general physical condition do not seem to have any influence with regard to the occurrence of acute rheumatism; almost the half of the children attacked were strong and well nourished.

The tendency to sweating, which almost invariably shows itself in connection with this affection in adults, is less frequent in the case of children.

As regards the joint-affection itself, in almost the half of the cases nothing abnormal in the appearance of the joint was observed—neither swelling nor redness—or they were so slight as scarcely to be detected; nevertheless the pain in most instances was considerable. On the other hand, however, in quite a number of cases in which distinct swelling was present, the pain was so inconsiderable that active and passive movements caused the patients no real discomfort.

When there was a group of cases in which inflammatory changes were made out, these were seldom severe, and on an average lasted five days, or, taken separately, from two to fifteen days. In a small proportion the inflammation receded quickly; in the majority, however, several exacerbations took place, in which the conditions were similar to those described.

With regard to the frequency with which particular joints were affected, the following are the author's conclusions:—

Most frequent—the knee-joints; scarcely less frequent—the ankle-joints; next in order of frequency—the wrist and shoulder-joints; then follow, equal in frequency—the hip and elbow-joints; next—the vertebral, finger, toe, and maxillary joints, and the sacro-iliac, sterno-clavicular, and costo-sternal articulations.

The joints of the right half of the body were, on the whole, more frequently attacked than those of the left half; and, in particular, the joints of the lower extremity, on the right side, and those of the upper extremity, on the left side.

The tendency to relapses is quite as great as in the rheumatism of adults. The interval has been as long as four years.

The temperature in the acute affection follows no definite type; in the majority of instances it did not exceed 38·5° C. (101·3° F.), and returned to normal in from three to five days.

The urine presented the usual characters found in pyrexial conditions; the diazo reaction was obtained in a very few cases.

As regards the complications, by far the most frequent, as well as the most important, is the affection of the heart and its membranes. The rheumatic affections of the heart as they are met with in children constitute sources of danger which are greatly to be feared. Even endocardial affections by themselves are not without danger, and the prognosis is much less favourable when the pericardium is likewise involved. Rheumatic pericarditis is particularly apt to cause partial or complete obliteration of the pericardial sac. And the mischief does not end here. At times the endocardial and pericardial processes show a tendency to assume an extremely aggravated form, and to proceed to a fatal issue, which may take place before the layers of the pericardium have become adherent.

The symptoms met with in connection with rheumatic endocarditis presented the greatest possible variety. At times it developed quite insidiously, and without any complaint on the part of the patient. On the other hand, however, the most severe constitutional symptoms may be present. The aurico-ventricular orifices are those most frequently implicated.

With regard to the relation between rheumatism and chorea, the following points are mentioned:—

Of 55 cases of undoubted chorea, 13 had a history of rheumatism. It is on all hands recognised that it may develop out of an attack of acute rheumatism. As a rule, the joint affection yielded to the treatment by means of salicylate of soda, and on its subsiding chorea developed. The latter disease was, however, entirely indifferent in its behaviour with reference to the administration of that salt; and in one case, while salicylate of soda was being administered, the choreic movements were such as to cause acute pain in the affected joints.

As regards treatment, the author speaks highly of the employment of salicylate of soda. He gave 1·0 to 3·0 gr. throughout the day, in solution, regulating the dose according to the age and the intensity of the joint affection. The latter disappeared, on an average, in from three to five days, the temperature having, as a rule, previously descended to normal. No untoward symptom referable to its administration occurred at any time.

Of other remedies employed by the author, salophen proved of most value as regards the joint affection. Ichthyol ointment was applied locally, and appeared to be of benefit in relieving pain.

MATERIA MEDICA AND THERAPEUTICS.

By R. BARCLAY NESS, M.A., M.B., C.M.

The Permanganate Treatment of Opium and Morphine Poisoning.—This treatment was introduced by Dr. William Ovid Moor, of New York, some time ago, and the full details are given in a little monograph with the above title, and published by Baillière, Tindall & Cox, London.

Dr. Moor found that morphine, unlike many other alkaloids of vegetable origin, was easily decomposed by permanganate of potassium, and so he conceived the idea of making use of this fact in the treatment of opium poisoning. His first experiments were carried out upon himself. He first gauged his susceptibility to the influence of morphine by taking one-sixth of a grain of the sulphate by the mouth. This, he found, made him heavy and drowsy, and the effect lasted for over two hours.

Subsequently, he took one-sixth of a grain of sulphate of morphine, and one ounce of a 1 in 2,000 solution of permanganate of potassium; this mixture produced no effect whatever. After this he took, at different times, one-quarter of a grain of the morphine salt, then one-half grain, but always together with a corresponding amount of the permanganate solution, and thus he gradually increased the amount of morphine, and proportionately the amount of the permanganate, until he took two grains of the sulphate of morphine, in one dose, with the same amount of the potash salt in solution. On none of these occasions did he experience the slightest inconvenience from taking these mixtures.

Further experiments convinced him that the morphine salt would be decomposed by the permanganate even when mixed with food present in the stomach. Thus on one occasion, four hours after a full dinner, at a time when the stomach must have contained a great amount of soluble peptone and other organic matter, he took two grains of morphine sulphate in about half an ounce of water, followed, in one minute, by three grains of the antidote dissolved in four ounces of water.

On the next occasion, three hours after a light supper, he took three grains of sulphate of morphine, followed, in about thirty seconds, by four grains of the antidote, both in aqueous solution.

Again, two hours after breakfast, he took five grains of the same salt of morphine in an ounce of water, followed, in a few minutes, by eight grains of the permanganate dissolved in eight ounces of water. On none of these occasions did he experience any effect whatsoever from the narcotic.

In simplifying his results, he states that one grain of permanganate dissolved in one ounce of water decomposes one grain of morphine, the equivalent of ten grains of opium.

If it cannot be ascertained at once what quantity of poison a person has taken, the physician in attendance should at once administer eight or ten grains of the permanganate dissolved in about eight ounces of water, and should repeat the dose once or twice at intervals of thirty minutes. If the patient is unable to swallow, the antidote should be administered by stomach tube.

There is no objection to the washing out of the stomach by means of a permanganate solution, but the essential part of the treatment is that the antidote has entered the stomach.

No matter how late the physician arrives, he should make it his first object to introduce a sufficient quantity of the antidotal solution into the patient's stomach, as considerable quantities of opium (laudanum) are often retained in the stomach for several hours, or even longer.

Further, the author suggests, as excretion of morphine takes place to a large extent by the mucous membrane of the stomach, that a weak permanganate solution—about one grain to a tumblerful or half a tumblerful of water—should be administered by the mouth every thirty minutes during the entire stage of opium narcosis, and even for some time afterwards, at intervals of an hour.

The author, finally, gives many instances where the antidote was used hypodermically, with good results, in cases of advanced poisoning.

Heroin (diacetic ester of morphine) is a white crystalline powder, slightly soluble in water, but freely soluble in alcohol.

The usual doses are one-twelfth to one-sixth of a grain per dose, and one-third to two-fifths of a grain per day.

The hydrochlorate of heroin is now supplied commercially. This is freely soluble in cold water, and is therefore available for subcutaneous injections, 4 to 8 minims being given of a 2 per cent solution. Fr. Meyer fixes the mean subcutaneous dose at one-twentieth to one-twelfth of a grain, which is equivalent to about 3 to 4 minims of the above solution.

Heroin has been introduced as a substitute for morphine, over which it is said to have some advantages. It is active in smaller doses, does not affect blood pressure, has a marked sedative action upon the respiration, relieves cough, and is not constipating.—(Merck, *Annual Reports*, 1898-1899.)

Heroin as an Analgesic.—In the *Therapeutic Gazette*, 15th August, Dr. S. H. Brown and E. D. Tompkins record their experience of this drug in the Howard Hospital, Pennsylvania, principally in connection with gynæcological cases after operation, where it was peculiarly desirable not to excite vomiting.

Heroin was selected on account of its being the diacetic acid ester of morphine, and the hydrochlorate because of its solubility in water and general convenience. It is incompatible only with apomorphine and the alkalies. The dose is from one-twelfth to one-sixth of a grain, and can be repeated. It was first used in medicine as a substitute for codeine for coughs and conditions attended with cough, in which it met with unqualified success. It has also been used in all pulmonary affections, including phthisis and whooping-cough; in cardiac diseases, angina pectoris, diabetes, neuralgia, asthma, narcotic inebriety, and advanced arterio-sclerosis, with success worthy of mention. It has proved of service, also, as a substitute for morphine in the cure of chronic opium-poisoning, and in tampons for local application in gynæcological practice. As a hypnotic it is of value in producing sleep, peaceful in character yet free from disagreeable after-effects. It has also been employed as an antispasmodic.

In a series of 50 cases, the hydrochlorate of heroin was exhibited for the relief of pain in 34 cases, and as hypnotic in 16. In all but 7 cases sleep was induced and pain relieved. The action of the drug took place in fifteen minutes from the time of administration in 25 cases, in twenty minutes in 18 cases, no effect being produced in the other 7. The dose in 34 cases was one-twelfth of a grain, and in 16 one-sixth of a grain. In 30 instances the duration of the drug action was four hours, in 13 six to eight hours. Thirty-one administrations were by hypodermic injection, the remaining 19 being by the mouth. *Vomiting* was absent in all but 4 cases, and as these administrations occurred before the patients had fully recovered from the effects of ether, it would be difficult to say which was the cause of the vomiting. Contraction of the pupils and subsequent constipation were absent in all. No idiosyncrasy for the drug was noticed.

It would appear, then, that heroin is a safe, reliable analgesic, and one which can be repeated, if necessary, without producing habit or doing harm in any way.—(*Treatment*, vol. iv, No. 10, p. 740.)

Demorphinisation by Heroin.—In the *Bulletin Genéral de Therapeutique* for 30th July, 1900, a case of demorphinisation by heroin (un cas de demorphinisation par l'heroïn) is recorded by Dr. M. G. Randel.

Reference to this case is given in some detail in *Treatment*, from which this note is taken (vol. iv, No. 9, new series, November, 1900, p. 645). The patient was a confirmed morphinomaniac, and was in the habit of consuming over three grains of the drug every day. By the help of subcutaneous injections of heroin, as a substitute for morphine, Dr. Randel was able to break the habit.

The author remarks that what surprised him was the effect of very small doses of heroin in removing the evil effects, mental and bodily, of the abuse of morphia. He believes that in heroin we possess a drug which is capable of effecting a cure in these distressing cases, and this very rapidly. It would appear, from the result of this interesting case, that it is better to cut off morphia entirely, and resort to the use of heroin, rather than to treat the patient by smaller and smaller doses of morphia. But it is, of course, always to be borne in mind that heroin itself is a drug owning the same origin as that of morphia, and that it is most necessary to guard against substituting one poison for another.

Books, Pamphlets, &c., Received.

Studies in the Psychology of Sex, by Havelock Ellis. Philadelphia: F. A. Davis Co. 1901. (2 dols.)

Diseases of the Thyroid Gland. Part I: Myxœdema and Cretinism, by George R. Murray, M.A., M.D. Camb., F.R.C.P. With Illustrations. London: H. K. Lewis. 1900. (7s. 6d.)

Medical and Surgical Reports of the Boston City Hospital. Eleventh Series. Boston: Published by the Trustees. 1900.

A Contribution to the Study of the Blood and Blood-Pressure, by George Oliver, M.D. Lond. London: H. K. Lewis. 1901. (7s. 6d.)

Arsenical Poisoning in Beer Drinkers, by T. K. Kelynack, M.D., M.R.C.P., and William Kirkby, F.L.S. With Sixteen Illustrations. London: Baillière, Tindall & Cox. 1901. (3s. 6d. net.)

Diseases of the Anus and Rectum, by D. H. Goodsall, F.R.C.S. Eng., and W. Ernest Miles, F.R.C.S. Eng. Part I. Illustrated. London: Longmans, Green & Co. 1901. (7s. 6d.)

Leçons de Physiologie expérimentale, par Raphaël Dubois, avec la collaboration de Edmond Couvreur. Avec 303 Gravures. Paris: Georges Carré et C. Naud. 1900. (14 fr.)

Progressive Medicine, Edited by Hobart Amory Hare, M.D. Vol. III (September, 1900). London: Henry Kimpton. 1900. (12s. 6d. net.)

Laryngeal Phthisis, or Consumption of the Throat, by Richard Lake, F.R.C.S. With 36 Illustrations. London: Rebman, Limited. 1901. (7s. 6d.)

Hygiene and Public Health, by Louis Parker, M.D., D.P.H. Lond. Univ., and Henry Kenwood, M.B., D.P.H., F.C.S. With Illustrations. London: H. K. Lewis. 1901. (12s.)

Uterine Tumours, their Pathology and Treatment, by W. Rodger Williams, F.R.C.S. London: Baillière, Tindall & Cox. 1901. (10s. 6d.)

The Retrospect of Medicine, Edited by James Braithwaite, M.D., and E. F. Trevelyan, M.D. Vol. 122 (July to December, 1900). London: Simpkin, Marshall, Hamilton, Kent & Co., Limited. (6s. 6d.)

Arzneiverordnungen in der Kinderpraxis, von Dr. H. Guttmann. Berlin: S. Karger. 1901. (Mk. 2·80.)

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FOUR WEEKS ENDING 19TH JANUARY, 1901.

	Week ending			
	Dec. 29.	Jan. 5.	Jan. 12.	Jan. 19.
Mean temperature, . .	44·3°	41·1°	35·9°	39·7°
Mean range of temperature between day and night, .	8·7°	9·4°	8·2°	9·1°
Number of days on which rain fell, ...	7	3	3	1
Amount of rainfall, . ins.	1·11	0·66	0·19	0·44
Deaths registered, . . .	304	271	328	376
Death-rates, ...	21·2	18·7	22·6	25·9
Zymotic death-rates, . .	3·4	2·1	2·0	4·7
Pulmonary death-rates, .	6·5	4·8	6·2	6·9
DEATHS—				
Under 1 year, . . .	60	63	71	69
60 years and upwards, .	56	57	48	71
DEATHS FROM—				
Small-pox, ...	3	3	2	3
Measles, ...	1	...	1	2
Scarlet fever, ...	2	1	3	1
Diphtheria, ...	3	2	2	1
Whooping-cough, . . .	28	16	36	44
Fever, ...	6	2	2	10
Diarrhœa, ...	6	7	12	7
Croup and laryngitis, .	1	...	...	3
Bronchitis, pneumonia, and pleurisy, ...	61	52	56	67
CASES REPORTED—				
Small-pox, ...	11	11	18	134
Diphtheria and membranous croup, ...	17	11	16	18
Erysipelas, ...	22	29	23	23
Scarlet fever, ...	69	57	60	61
Typhus fever, ...	1	1	...	2
Enteric fever, ...	23	19	42	59
Continued fever, . . .	...	1	...	...
Puerperal fever, . . .	1	2	2	1
Measles,*	28	9	30	7

* Measles is not notifiable.

SANITARY DEPARTMENT,
GLASGOW, *26th January, 1901.*

THE

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ORIGINAL ARTICLES.

A CHAPTER OF FIELD-HOSPITAL EXPERIENCES IN THE EASTERN TRANSVAAL.[1]

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I have nothing very new to tell you concerning either bullet-wounds or South African affairs, more particularly as you must all have become pretty familiar with, and perhaps even a bit tired of, the subject from your reading in medical and lay journals. Still, I thought it might interest you to hear from one of yourselves, not only the sort of work a civil surgeon is called upon to do, but also the conditions under which he does it. Instead, therefore, of giving you a general survey of that work, I have elected to take a chapter out of these experiences, as the title of my paper indicates, perhaps not the most exciting, but still a fair sample of the general volume. In that chapter is comprised the experiences and work of forty-eight hours, which, as my time is limited, I will briefly sketch, and afterwards present in more detail, as the character of my audience demands, a few of the more interesting cases dealt with in that brief period, together with the after histories of the same.

For close on seven months I was in a field-hospital which had the good luck to be at the very front all the time. In this connection it is curious to note how "the front," like the mirage in the African desert, seems farther away the nearer you get to it. Everyone who leaves home is bound for "the front," yet, when I arived at Maritzburg, only 80 miles from the scene of operations, I was, if anything, less in touch with the enemy than I had been at home. At length, however, after three long months of weary waiting, with spells of much and little work alternating, my turn to leave the base came, when I joined the Third Mounted Brigade Field-Hospital, and to-night my paper treats of events that happened during the entry into, and the occupation of, Lydenburg, in the Eastern Transvaal.

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[1] Read before a meeting of the Glasgow Eastern Medical Society, 6th February, 1901.

It may not be out of place here to say just a word about the field-hospital, an Indian one, to which I was attached, and which had a *personelle* and equipment for fifty cases. An R.A.M.C. Major (Major Brannigan) was in charge, and, besides the major and myself, there were four assistant-surgeons (Eurasians or half-castes), who played the *rôle* of dressers and assistants generally, and all these half-castes, though as black as the kettle, styled themselves Europeans. The native establishment consisted of two apothecaries, four cooks, eight ward-boys, eight sweepers, two beasties (water-carriers), four dhobies (washermen), a few syses (grooms), and between thirty and forty dhoolie bearers; for, in an Indian field-hospital, the hospital and bearer-company are combined, and not distinct and under different commanding officers as in the case of a British field-hospital. Then there were two babboos or store-keepers, who drew and issued rations, &c. Over and above the natives, we had four white men—a sergeant to look after the pack-store, a corporal to take charge of the filtering of water, and two privates to act as nursing orderlies. Our transport was in charge of a Colonial conductor, who understood about mules and waggons, and who could talk Kaffir to the drivers and leaders. The transport comprised half a dozen dhoolies, about one dozen stretchers, and three ambulances, a water cart, and five mule waggons to carry tents, stores, &c. We had our own transport, as had all the field-hospitals on the Natal side, and were as independent and mobile as the regiments belonging to the brigade we served. I need hardly say that beds were not carried, for mobility is a most primary consideration, as the field-hospital must be capable of advancing or retreating simultaneously with the army. Mattress covers and pillow cases were, however, included in the equipment, and when time and circumstances permitted of it, the dhoolie bearers cut grass to stuff these with. As long as the stretchers and dhoolies held out, men were laid on these, after which they lay on a blanket and waterproof sheet, as they had been doing all along, a—by the British press—much exaggerated hardship. In every way the hospital was complete in itself, carried medical comforts, surgical dressings and appliances, all compactly put up in panniers, medicines mainly in tabloid form, and always three days' reserve of food. Rations were drawn from the supply column every day when possible, this reserve being untouched unless in cases of necessity. A lot might be said about the ethics and economics of a field-hospital, but time presses, so I must proceed.

Well, on the morning of 7th September, 1900, General Buller's column marched out from Witklip and proceeded on its way to Lydenburg. It was a beautiful morning; not too hot; clear, blue, cloudless sky overhead, and the illimitable veldt and kopjes stretched silently away to the horizon, while the noise caused by the guns and waggons as they rolled and rumbled on, accompanied by the tramp of man and beast, seemed strangely out of harmony with our surroundings. We marched along unmolested, and visited the deserted farms not too far from the main road. We passed General von Schoeman's place, which was occupied by his womankind, as was a pretty universal custom, while a sentry of our own prevented any damage being done to the house. The outhouses, however, were not so protected, and, along with several officers and men, I reached a barn filled with tobacco. I crammed as much as I could into my saddle-bags and set off, leaving others to look for stamps and curios among General von Schœman's office papers, for never before, perhaps, in the history of the world has such a horde of curio-hunters been let loose in any country. The Boers even got to smile at us, and it was indeed funny enough to see a crowd of officers round a hoary and hairy Boer clamouring for Kruger pennies, a Transvaal flag, &c., &c. I enjoyed that day's ride, and so did my pony, for I led him into some fields of young grain from 3 to 12 inches high. An army of locusts was in very truth passing through the country, and the horses, like ourselves, were famishing for want of fresh vegetable food, and here they got it. In a very short time these little patches of green, regular oases, in the bleak desolate country, were as bare, black, and cursed as the rest, for the Boers had burned all the grass behind them as they fled. As we neared the town, I heard a band playing some patriotic air, the first I had heard since leaving Maritzburg, and all was going as merry as a marriage bell. We were still about 2 miles from Lydenburg, and had just emerged from a narrow defile into the open, when bang went a Long Tom, and with a shriek and another bang the shell fell into the river bed about 200 yards from us. We had some patients in dhoolies, and the dhoolie bearers, like wise men, turned back. The rest of us marched on, and with my heart perhaps a trifle in my mouth, I ordered the Indians to follow, but when another shell came screaming overhead, I took the precaution of sliding off my horse and got on the lee side of a waggon. The shells came fast and furious for a bit, till really the cursed things got on my nerves, so, being in command at the time, I ordered the waggons to turn back to gain the protection of a little hill. Shells kept flying over us, and some fell just to the other side of the hilltop, so as there were two hospitals behind the kopje, and some sick and wounded, a man was sent by a R.A.M.C. Major to plant a Red Cross flag on the top of the hill. This humane device, however, seemed to act like a red rag to a bull, for at once the Boers responded with a high velocity that fairly made my flesh creep, and from all sides there resounded cries of "Haul down that bloody flag," and down it came. A staff officer ordered us farther back under the hill, with "You're safest there, but nowhere out of reach of the beggars." There were some large eucalyptus trees bordering the road which skirted the hill, and here we gathered, those patients who could sit up being placed with their backs against the trees, while those in dhoolies were placed on the road itself, where the hill ending abruptly gave a protection just about the height of the dhoolie. This was the better place, but so many claimants were there for this spot that I made for a big tree when I heard Long Tom bark out. We had patients to feed with milk, beef-tea, &c., and then when shells came, we—at least I—ran for a tree and made myself as small as possible in behind it. One shell struck the top of the hill and exploded, sending down stones and earth among us, and then the Boers commenced dropping shrapnel, and after the explosion just overhead down rained shrapnel bullets and bits of shrapnel shell, carrying with them leaves and twigs. The suspense of the thing was tremendous. I had nothing to do but stand behind a tree and wait as these shells burst overhead or went shrieking beyond. It seems an eternity from the moment you hear the cannon fired till the shell bursts. All this interval—if the shell be coming your way—is filled with the noise made by the travelling body, commencing like a rush of wind, and getting louder and louder till it shrieks in a way that fairly makes your blood run cold. As it gets louder and louder, and nearer and nearer, it seems to be making for you, and you are already feeling hit all over, when it may burst quite a long way off. Though shells are no laughing matter, I have not only been laughed at, but have laughed at others, for flopping down in the expectation of being struck, and though there is difference of opinion as to whether it is better to take it standing up or lying down, most are in favour of the prone position.

By and by the terrible monotony of wait, waiting was relieved by a wounded man being brought into hospital, and never was I more grateful for something to do. He was a Kaffir, and had a compound fracture of both bones of the fore-arm, caused by shrapnel, most probably a shrapnel ball. There were two large wounds, and the bones were broken about the junction of the upper and the middle third of the fore-arm. The hæmorrhage was profuse, but no definite bleeding point was seen, and the wounds being of sufficient size to enable me to thoroughly clean the parts without further opening up, I contented myself with firm packing, after being assured that the radial and ulnar arteries were intact. Only one shell that afternoon did damage, apart from the one that struck the Kaffir, but the cases were taken to another hospital. This shell wounded five men who were bathing in the river at the time. One man was struck in the belly and died, another had his leg torn off, a third almost lost an arm—of him more anon —and the other cases were slight.

This shelling went on till dusk, and even in the darkness the Boers maintained a desultory fire. Orders, marked urgent, came at night, commanding the major of the field-hospital I was with to take over the Agricultural Hall in Lydenburg, and make a stationary hospital of it, receiving all the patients from the other field-hospitals with General Buller's army.

A council of war was held as to what should be done. The major's idea was that our best plan would be to go out at once under cover of the darkness, and I agreed with him, till the sergeant reminded us that it was a bright moonlight night. "Then it would be madness to attempt that open road by moonlight," said the major, "for the Boers have the range to a nicety. Why, they dropped shells on that very road this afternoon." The conductor advised waiting till morning, for he felt perfectly sure that there would be neither Boers nor guns there next morning. He felt absolutely certain that the road would be as safe as Piccadilly in the morning. Then came the sergeant with a rumour—he was always hearing and repeating rumours—"Our cavalry are going to make a night attack, or an early morning surprise on the guns, and capture them." I suggested what should have recommended itself to every sane man—that we should move off at 4 A.M., between the going down of the moon and the uprising of the sun, but I got no support. The conductor kept assuring the major that there would be no guns there in the morning, "besides," as a brilliant idea struck him, "the Boers never begin firing before 7 or 8 in the morning, and we can move off at 6 before the Boers are up." This last proposition was passed *nem. con.*, and we prepared for bed, the major more than once calling himself a fool for not going immediately instead of being advised by these lazy devils. He did not mind the shelling himself a bit, but he had the interests of his patients to consider; moreover, though the Geneva Convention protected the Red Cross, Red Cross waggons and people were supposed to keep out of the way of fire.

We rose with the sun next morning, and in a few seconds were dressed and washed. I went forward with the major to the end of our little protecting hill, and looked round the corner at the horrid open place we had to cross ere we could reach Lydenburg. It was by no means inviting, even though the Boer hills were capped by mist, and the major did not like the look of it at all, and said he was d——d if he was going to make himself a target for the Boers. We went back to our camp, had breakfast in peace, and learned that several waggons had passed backwards and forwards without being shelled, so the major walked away into town with one of the assistant surgeons to try the safety of the road, and to inspect the Agricultural Hall, ordering me to bring on our ambulance and baggage waggons if he did not return soon. In half an hour or so the conductor came to inform me that the mules were all inspanned. I had grown quite bold myself by this time, as I had heard no firing, and thought, like the others, that the Boers had moved off, so I gave orders to advance. We had just cleared the hill, and were alone on the road save for a few mounted orderlies galloping backwards and forwards, when I saw two columns of smoke rise up from the Boer hill. I showed these to the conductor, but he said that they were only veldt or grass fires, and that the Boers must have gone. We heard no report. Next minute, however, I saw a flash before the smoke, and involuntarily said—"My God, it's a gun." We were left no time in doubt, for the boom came and then the scream, and with a bang the thing burst about two hundred yards from our right flank. As this had fallen short, I expected the next to plump into us; and, feeling anything but in a cheerful frame of mind, I rode at the head of our little column.

I may here remark, that it is all very well to read in books and newspapers, by the snug fireside, that shells do very little damage. It is added, however, that they have a demoralising effect on the enemy. I suppose I must have read this or heard it quoted hundreds of times by wiseacres and arm-chair generals, and made up my mind not to be demoralised, but I have yet got to meet the honest man who can say he does not object to shells, most freely admitting that they positively loathe them. It is quite true that hundreds of shells may be fired and nobody hurt, but when they do strike a mark the damage is incalculable—and you never know when that is going to happen.

I can't say that the Boers were aiming at us, no more can I admit the soft impeachment that they were not; still it sets one's hair abristling to see and hear those things bursting round about you. At one point of the road where there was a little rise, and where we stood out in bold relief, we had to halt to let a battery of artillery cross. I need hardly dwell on the suspense of these few awful minutes, which seemed hours, for it is very dear to a Boer's heart to get a shot at artillery. They hate and curse our guns, but not more than we did that morning as the shells dropped all around. Then on we marched again, but these confounded things had taken captive my imagination, and the walking pace of the convoy was maddening. I could not keep my eyes off the hills from where the guns were firing. I watched for the puff of smoke, and then waited for the sound of the bang, and ducked my head every time the whiz came. I would have liked very much to have made a rush for it by galloping into town, so I made a compromise and trotted slowly ahead till I came to a little bridge at the entrance into Lydenburg. I felt sure that the Boers must have the range of the bridge, so I pulled up till both Long Toms had fired and the shells had burst, then I dashed over the bridge before they could reload, and in a few minutes found myself opposite the Boer hospital, with the gallant major calmly smoking at the door. I at once forgot all my fears and troubles in my new sense of security, for the Boer guns were hidden from view by some high trees, and very, very willingly did I accept the major's invitation to come inside and inspect the Boer hospital.

But I was soon dragged from my haven by the Provost-Marshal. A sturdy German, who declared that he was a correspondent, and had been left behind by the Boers as he had hurt his back by a fall from his horse, but who was strongly suspected of being a German officer, was found living in a small brewery. To the tune of Boer and British artillery I mounted, with some little trepidation, a dark staircase to a small upper room, where alone our foreign friend would consent to undress, while the military gentleman kept guard below. The German exhibited a large capillary nævus on his back, the result of the fall he said; so having proved that, whatever he was, whether correspondent or officer, he was, at least, the reverse of scrupulous as to the truth, I went down stairs, and at once had the satisfaction of seeing him marched off to gaol. Later on, when the brewery was searched, it was found to be a perfect arsenal, and the military occupation of the German was more than satisfactorily proved.

Then, on I rode to the Agricultural Hall, and found the floor of a large, bare building all strewn with patients. When you have something like 130 or 140 patients suddenly to look after, there is a difficulty in knowing where to begin, and ere I had time to grapple with this problem my friend, Dr. John Hunter—known to many of you—galloped up to say that he was bringing in a lot of wounded Gordon Highlanders. Our operating tent was half up, and giving orders that all the sick in the hall should have something to eat or drink, I went out to look after instruments, lotions, &c.

The first case brought in was a compound comminuted fracture of tibia and fibula, close to the ankle-joint. This man had to be put under chloroform, the ragged wound cleaned and rendered aseptic, and several small pieces of bone and the shrapnel ball itself removed. Then an almost pulseless Highlander (a Gordon), with four pressure forceps deep down in a wound in the groin, and a fracture of the femur, was carried in. This took some time to fix up, when in came a wound of abdomen. The man was all but dead, and nothing but morphia seemed to be indicated. Next a wound of the knee-joint to dress and clean up, and then a wound of the buttocks. Another compound fracture of the femur was attended to; and when I finished up several minor things, I was told that all the rest of the wounded, seventeen in all, struck by a single shrapnel shell from Long Tom, had been seen to.

All this time the Boer guns were firing away on our men who were advancing out from the town, and our own 4·7's, not far from the hospital, were hard at it. These confounded shells kept shrieking past us on their errands of destruction, the report of our own guns fairly shaking the ground we stood on. I admit that I kept bobbing across the operating table to Hunter every time a shell flew past, but then, so did Hunter, though he denied it afterwards.

The Agricultural Hall was well out of the town, and our own guns were behind and to the left of it. There is much talk of Boer treachery and disrespect of the Red Cross flag, but if ever the Dutch had a chance of annihilating close on 200 persons they had it here, and yet no shell came our way. We were a most perfect target to them, so much so that it seemed but right to place the operating tent at the end of the hall farthest from the enemy.

It was now afternoon, all the patients had had something to eat or drink; so, swallowing a cup of tea to wash down a piece of "bully" beef and hard biscuit, I went back to the hall to pick out and attend to the serious cases, such as enterics, and see what wounds required dressing, and so on. I had three assistant surgeons to help me, while the major, with another assistant surgeon, was buying, begging, and borrowing beds, blankets, sheets, pillows, &c., to make the sick and wounded comfortable. I may remind you that our staff and equipment was only for 50, so 160 odd patients was no mean number to treat and feed. The major worked down town heroically, and by evening we had twenty spring beds filled with the worst cases, lying on good mattresses and between—I don't exaggerate—clean sheets. Everyone had to lend a hand, fitting up beds, stuffing mattresses, carrying men into the hall from the tents, and into the tents from the hall, and so on.

About 8 o'clock we had a good square meal, after which we visited the Boer hospital. Then, back again to our own Agricultural Hall, ordered morphia here and there, and attended to several things as we made our rounds ere going to bed. I slept, and never was more loth to rise than when the major yanked me out of bed at 6 next morning. For two solid hours we worked at fitting up beds, and then had breakfast. I ran round the cases, and then had brought into the operating tent a piper of the Gordons, who had been struck on the head the day before, when someone else had attended to him. I trephined, and ligatured the middle meningeal artery. Next came a jaw case, where hæmorrhage had started, and wherein I tied the facial artery. After this there were a great number of the transferred and other cases to see, which kept me going till 1 o'clock. A short interval for lunch, then back again to work. That my work was not exactly child's play, I may mention that by this time I had 46 wounded cases to look after, as well as about 40 minor medical cases, the major in charge doing most of the serious medical work himself.

At 4 o'clock I was called down to the Boer hospital to see a case under the charge of an Irish Boer doctor. This was a horrible shell wound of the shoulder, which I will describe later on.

I was dead tired as we finished up about 6 by lamp and candle light, and when the nurse produced some Boer plunder, in the shape of sparkling Burgundy, upon my word I could have hugged her, even though her husband was still fighting in the Staats Artillery. We must have been very much exhausted when the Burgundy came to our relief, for both the major and myself were considerably surprised to find our horses tied up outside, and we galloped back to the Agricultural Hall as though the Boers or all the imps from the nether regions had been after us.

We had dinner, and, having done our rounds, went to bed to rest and smoke till sleep should come. We had just blown out the lights preparatory to actual oblivion, when we were called up again to look after a man brought in by dhoolie bearers from the front. He had compound comminuted fractures of femur, tibia, and fibula. He had been carried a distance of 15 miles, and had lost a lot of blood, and it seemed advisable, as his pulse was hardly perceptible, to dress him quickly and put him to bed.

Then we went back to bed ourselves, where we spent undisturbed the remainder of the first forty-eight hours after our entry into Lydenburg.

I will now describe in some detail a few of the more interesting cases dealt with at this time.

Private C., 1st Royal Irish, was wounded on the 7th September, by a shell from a Long Tom. He was admitted to hospital on the 9th.

On examination, there was seen a large open wound over the whole surface of the scapula, exposing the supra and infra-spinatus muscles on the left side. The scapula was fractured into several pieces; the humerus was fractured and splintered just below the surgical neck; and the outer fourth of the clavicle was much splintered. There was no bleeding when I saw him, but much sloughy grey-looking tissue. In front the skin wound came forward below the coracoid process, and the arm itself was hanging merely by the great vessels and nerves, the lower axillary fold of skin, and the pectoralis major and latissimus dorsi muscles.

I dissected out the head and upper end of the shaft of the humerus, removed the loose and broken acromion process, took away the splintered end of the clavicle and the greater part of the scapula with the spine attached, and trimmed the ends of all the bones with bone forceps. Only in this way was it possible to cover in the extensive raw surface, and so shattered were these various bones that nothing seemed to be gained by trying to save them. The deltoid muscle was stitched up, and the skin was brought together with silver sutures. There was very little hæmorrhage. The arm was put up with a wedge-shaped pad, to keep elbow away from the side and take tension off the stitches about the deltoid.

15th September.—There has been every day a profuse discharge of pus and much slough. Temperature slightly elevated at night, and subnormal in the morning. Stitches are gradually cutting their way out.

24th September.—I was called up during the night to attend to very profuse hæmorrhage, and I went down to the hospital expecting to find the subclavian or axillary artery bleeding. I was pleased to find that no large vessel was bleeding, and it was evident that all the hæmorrhage was from the raw surfaces produced by the arm falling away from the shoulder. Hæmorrhage was soon stopped by bringing the arm up again, and on the following day the arm was fixed at right angles to the body, and kept this way for about ten days, when it was gradually let down again.

On 8th October, when I left Lydenburg, there was a granulating surface all over, with skin creeping up from the edges. All bone was covered in, unless the outer part of the clavicle, which was dead and had a worm-eaten appearance, though firmly adherent.

On 12th November I met him on his way down country. Over the scapula there was a healthy granulating wound about the size of a five-shilling piece. Over outer end of clavicle was a sinus, through which I removed a piece of dead bone. There was no shoulder movement, and there never will be any; still, in spite of that, he will have a very serviceable arm.

S. G., piper, Gordon Highlanders, was wounded on the head by a shrapnel ball, on the morning of 8th September. There was very considerable hæmorrhage when he was carried in from the field, and oozing kept up all night. He was brought under my notice on the following morning.

When examined, there was complete right hemiplegia;

patient was in a comatose condition, and pupils were equal, dilated, and fixed. I brought him at once into the operating tent, and had him prepared for operation. Over the motor area on the left side of the head, about 2½ inches from the middle line, on a level with the ear, was a contused wound of the scalp, about the size of a shilling, and through this blood-clot and brain matter were protruding. The long axis of the wound was oblique, and two bullet holes, entrance and exit, were seen in his helmet. Through the scalp wound was felt a punctured fracture of the vault, which just admitted the end of my forefinger. Under an anæsthetic a skin flap was turned down, and a considerable quantity of blood clot with some brain matter and a few fragments of bone were extracted. I allowed all the clot to come away, helping it somewhat by gently irrigating through the hole in the skull, and when all the blood-clot was removed, very free hæmorrhage occurred. The edge of the aperture was ragged, but no fracture or fractures led away from the opening. The hæmorrhage was so free that I thought the middle meningeal artery must be wounded. I removed a circle of bone by means of the trephine from the lower and anterior end of the aperture, and though I now could see the bleeding point quite distinctly, I could not pass a ligature round the artery until I had taken away a second disc just above the first one. This enabled me to pass a curved needle round the artery, and ligation at once stopped the free flow of blood. A few of the meningeal veins were ligatured, then passing in my finger I was able to examine the inner table all round, and I found no splintering or bony fragments. Immediately below the hole in the skull was a large wound of the brain substance as far as my finger reached. No bony spicules were felt, so I sewed up the scalp along the line of my incision, and the original contused wound was left open and lightly packed with gauze.

On the following day (10th September) he was much improved. The coma had passed off, but it was now seen that he was aphasic. He was unable to speak, though he understood simple things said to him, and would put out his tongue, and so on, when asked to do so. He made signs for urinals, bedpans, and drinks, but did not utter a single word. He knew he couldn't, and would burst out crying when spoken to. His pupils were smaller, equal, and reacted both to light and accommodation.

11th September.—Facial palsy still marked, but already can move the leg and arm.

12th September.—General intelligence is much improved;

leg and arm stronger. Tried to speak this morning, making curious sounds. Head dressed; wound looks healthy; no rise of temperature.

13th September.—He has one word for everything—answer and question—but no one can make out what that word is.

18th September.—He read his own name this morning, and then copied it, but could not write his name when asked to, nor could he read to understand a sentence of written or printed matter. He was a typical case of motor aphasia, and from this date on he improved rapidly. The first thing he said was his own name, "Samuel Gordon," words he, for a time, answered to all questions. Then he added "ay" and "no" to his vocabulary, and by a process of education he learned again all that he had forgotten. Another Highlander, with a bullet wound through his knee-joint, lay alongside of him, and got his piper comrade to repeat words, and went over and over again the names of friends who came to see him, till bit by bit his memory and his speech all came back; and on 3rd October, when he went down country, *en route* for Coatbridge, there was the greatest difficulty in making out the slight difference in expression, or want of expression rather, on the right side of his face. His right hand-grasp was hardly so good as the left, but no paralysis was noticeable in the leg. He still spoke with a curious hesitancy or stammer, and could not get his tongue round such big words as hippopotamus. Though a first-class player on the pipes before he was wounded, he could never be induced to take them up or play on them afterwards. The wound itself did well, though there was slight discharge from some necrosed bone, up to the date of his going down country.

Private P., admitted to hospital on the 7th September with shrapnel wound of the left buttock. There is only an entrance wound about the size of a shilling, with bruised edges, situated about 2 inches below the centre of the iliac crest. Wound seemed to heal up by scabbing, and all went well till 16th September, when he complained of pain, and on examination a very evident abscess was found in the gluteal region. Arrangements were made to open this next morning, but during the night the abscess burst.

On 17th September, under chloroform, I opened up the wound, and, on exploring with my finger, felt a shrapnel ball firmly lodged in the thick part of the ilium near the sacro-iliac synchondrosis. The ball was firmly wedged in, its upper surface being on a level with that of the bone itself. It may interest you to know that no chisel or gouge is supplied by our all-seeing Government—the trephine, saw, and bone forceps being the only bone-cutting instruments in the surgical panniers. A trephine might have managed it, but I was afraid of pushing the bullet into the iliac fossa, out of reach. I therefore told the major that we would have to wait for a gouge or chisel and another day. Resource and heroism are characteristics of all army men, so with a "Not so; we 'll finish it now," the major ordered an assistant-surgeon to saddle up, and gallop for all he knew down to the joiner's and borrow a gouge. Anæsthesia was kept up, and we calmly waited about a quarter of an hour, till the assistant surgeon, considerably out of breath and with a very much blown horse, returned and informed us that the joiner was out, and that his wife did not know where he kept his tools. So the wound and abscess cavity were packed with gauze, and the patient was put back to bed. That afternoon we went down to the town of Lydenburg, and bought an ordinary joiner's gouge.

On the following morning (18th September), by means of a gouge and hammer, I cleared away the bone from the lower and posterior end of the bullet, and then gently pushed in the bullet extractor, when, much to my chagrin, the shrapnel ball slipped in between the iliacus muscle and the bone. A small quantity of pus welled away at the same time. The opening in the ilium was further enlarged, but the bullet refused to be coaxed out. There was, moreover, very considerable hæmorrhage, and I began to despair of extracting the bullet. I tried directors and all sorts of things to get under it and pull it out, and finally started it with a hernia director, and finished the job by hooking an aneurysm needle under it, and then with a pair of pressure forceps got away the round leaden ball, which was not at all disfigured. A profuse purulent discharge continued for some time from the iliac fossa; but, by making him lie flat on his back, there was no retention of pus, and when he went down country on the 16th October the wound was all but healed.

Sergeant B., Gordon Highlanders, admitted on morning of 8th September in an almost pulseless condition. A ragged contused wound, about 3 inches long, is present over the lower part of the abdominal wall close to the middle line; this wound is oblique, and ends in a larger opening, the size of a two-shilling piece, over the femoral vessels, and through this wound four pressure forceps have been inserted. The femur is fractured at the junction of the middle and upper third, the fracture being a very oblique one. The man had lost a considerable quantity of blood, but the fact of slight pulsation being felt in the dorsalis pedis and posterior tibial artery argued against the femoral artery being injured. However, to make sure, the femoral artery was exposed in Scarpa's triangle and was found to be unharmed, and the forceps were seen to be on the internal saphenous vein (just as it opens into the femoral) and other venous branches. The veins were ligatured and the wound stitched up, the contused edges being pared away to allow of this being done. As there was but one wound, the bullet was, no doubt, inside his leg somewhere, but could not be detected. The leg was put up in a long splint.

He suffered much pain and required a good deal of morphia, and his leg gradually swelled up, till by the 12th of September it had assumed the appearance of a case of phlegmasia dolens, the skin being white and glossy, and all the surface veins being very prominent. There was some œdema of the limb and very severe pain. While transferring the limb from a long splint to a half box splint, I noticed for the first time a very marked thrill at the apex of Scarpa's triangle over the femoral vessels. There was no tumour at this place, nor was there any great pulsation, but there was a continuous vibratory thrill or tremor, for all the world, as someone has described it, "like the buzzing of a fly in a paper box." Over this same region, with the stethoscope, could be heard a continuous rasping "bruit."

15th September.—Complained for the first time of much pain at the back of his leg, and a small, hard, tender place was found. His temperature had hitherto been normal, but on evening of this day it reached 102·4°. Splint was removed as he could not endure it. On 16th inst., temperature 98·6° in morning, and 101° in the evening.

17th September.—Under chloroform, leg was examined and no very definite hardness detected. The small, hard, tender place which I had felt the day previous, and thought to be the bullet, I could not now make out. I had, however, marked with indelible pencil the most painful spot, and this I cut down on a little above the middle of the thigh to the outer edge of the semitendinosus and semimembranous muscles, and whenever I got through the fascia lata, pus escaped, and at once I put my finger on the bullet. The abscess cavity was washed out, and two pieces of tartan kilt, a little less than an inch square, were removed. The shrapnel bullet itself was distorted, one side being concave and grooved. His temperature now came down, and as free drainage of the abscess cavity was secured, I thought he was on the high road to recovery, so far as his abscess was concerned, whatever might ultimately happen to his varicose aneurysm.

On 25th September, however, he had a rigor, and his temperature went up in the evening to 102·6°. On the 26th inst., the temperature was 98·6° in the morning. Leg was examined and dressed under chloroform, and drainage seemed to be free enough. In evening, however, temperature again 102°, and this went on all week, ranging from 101° to 102° at night, and from 98° to 99° in the morning.

On 1st October a consultation was held, but we did not see what more we could do; there seemed no retention of pus, nor anything to be gained by further cutting, besides there was more than a suspicion that he was suffering from enteric fever; and, though he was considered to be critically ill, it was somewhat of a surprise when he died suddenly next morning, 2nd October.

Post-mortem examination was made on the same day, and body was seen to be fairly well nourished. The wound in the left groin had healed in greater part by first intention, and there was considerable new formation of fibrous tissue around the femoral vessels. The internal saphenous vein was blocked by organising blood-clot close to its entrance into the femoral vein, which was enormously distended, as also was the external iliac vein. This distension extended downwards also, though the greatest dilatation was at that point where the internal saphenous opens into the femoral vein, and immediately below this where there was a regular sac. There was a considerable amount of connective tissue around the vessel along the track of the bullet. The superficial femoral artery was uninjured, as also its vein; but on tracing down the deep femoral artery and vein, it was seen that the inner wall of the profunda vein was in close relation with a mass of blood-clot, which formed the upper end of the abscess cavity. This blood-clot was in great part breaking down or broken down. When the deep femoral vein was slit up, its inner wall, over an area the size of a sixpence, was found to be covered by a shaggy thrombus, which filled up the breach made by the bullet; while on the posterior wall of the vein was a second roughened area, half an inch long and a quarter of an inch wide, its long axis being in that of the vessel itself. In this latter place the wall of the vein had been abraded, and was patched with a shaggy thrombus, while at the upper end of this abrasion was a small opening, which admitted a probe right into the deep femoral artery. Below this gap in the deep femoral, the artery was completely blocked by a thrombus, which was very intimately connected with the arterial wall. The fracture of the femur was very oblique, extending over close on 3 inches, and the ends of the bones were bathed in pus. The lungs showed several small purulent emboli with surrounding condensation. There were recent fine granulations on the curtains of the aortic valve. Spleen was much enlarged, and almost fluid. The liver was considerably enlarged, and was in a state of albuminous degeneration, going on to fatty degeneration, and the kidneys were in a similar condition.

The course of events may be traced as follows:—The shrapnel ball, which entered his groin and fractured his femur, carried away the inner wall of the deep femoral vein, and grazed the posterior wall also in such a manner as to catch the underlying profunda artery. The bullet thus found its way to the back of the leg, and carried with it two pieces of tartan, which must have been the very quintessence of septicity. Blood flowed from the wound in the vein, and eventually a blood-clot formed, blocking up the opening in the vein and imprisoning the bullet and tartan. The wound on the posterior wall of the vein also got covered in by blood-clot, which clot extended into the distal part of the profunda artery, eventually blocking it up, but leaving the artery free to pour all its blood into the vein itself. The blood-clot around the bullet and tartan was the very best nidus for the organisms in the latter, and they flourished till they formed an abscess, which I opened. The ends of the fractured femur were, however, in contact with this septic matter, and though, no doubt, all the veins were carefully guarded by thrombi, these thrombi either broke down by microbic infection, or were mechanically displaced during manipulations of the limb, and there was nothing now to prevent a general infection. This dread event occurred, as evidenced by the purulent emboli in the lungs and the recent endocarditis of the aortic valve.

Had I amputated at the very first, this man's life would, in my opinion, have been saved. Still, all I saw at the beginning was a compound fracture of the femur, for which amputation is not the correct treatment. When varicose aneurysm also developed, the question of amputation arose, but was decided against; so we waited on. Then an abscess formed, was opened and the bullet removed, but all seemed to be going well till the rigor—the herald of general infection—occurred, and then amputation would have been too late.

Within the bounds of a paper like this, and with a limited time at my command, it is not possible to do more than give you a glimpse of the civil surgeon's life and work in South Africa. I might, for instance, as the Ghost says to Hamlet, "harrow your blood, and make each particular hair to stand on end like quills upon the fretful porcupine," with accounts of long weary nights spent at drifts, when everybody seemed to blunder, and tired-out human nature vented itself in curses and imprecations on the poor dumb brutes, which were held responsible for the convoy sticking or for the waggons overturning. I might, too, tell you of our weird midnight searchings for wounded and missing men on the desolate veldt, and of our struggles back to camp with only the stars to guide us. Or I might relate our experiences at the battle of Bergendaal, when the Inniskillen Fusiliers behaved so pluckily and suffered accordingly, and we had thrown on our hands, huddled together inside a barn and outside on the lee, over one hundred wounded men, Britons and Boers, all writhing and moaning in an agony of pain and thirst. I might also excite your generous sympathy, if only I had returned among you a little thinner and more cadaverous looking, by a recital of my own personal sufferings, real enough at the time, from hunger and thirst, heat and cold, not to say anything of bugs and other less mentionable vermin. But all these, gentlemen, together with my hopes and fears, and our hurried shiftings of camp to escape Boer shells and Boer snipers, would take a chapter to themselves. I content myself for the present, therefore, with this taste of a civil surgeon's experience and work comprised in the forty-eight hours of our march into Lydenburg, and the taking over of the hospital there, trusting that with this glimpse your imagination will be able to fill in the rest.

I take this opportunity of expressing my thanks to Major Brannigan, R.A.M.C., for allowing me to make use of these cases, and for his unvarying kindness and courtesy to me while working with him.

TWO CASES OF PARALYSIS IN ENTERIC FEVER.[1]

BY JAMES CARSLAW, M.A., M.B.,
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PARALYSIS of any severity is a rare complication of enteric fever, and two cases I have recently come across I thought of sufficient interest to bring before this Society. The one I regard as a true complication of enteric fever, due to the effect of the toxines of the bacillus typhosus on the nervous tissues. The paralysis in the second case is more than likely to have been rather a coincidence—an attack of hemiplegia in the course of enteric fever, which might have occurred in connection with any feverish illness, or even without any other symptoms.

Apart from the nervous symptoms, such as headache, sleeplessness, and delirium, that occur in enteric fever, as in some of the other specific infectious fevers, there are many definite affections of the nervous system that may develop either during the fever or in the course of convalescence. In this respect enteric resembles epidemic influenza more than any other of the specific fevers. There may be mental symptoms, leading on to some form of insanity, or neurasthenic conditions may supervene. But there may also be definite system disease of the brain or of the spinal cord, or some inflammatory affection of the peripheral nerves. Cases of hemiplegia have been recorded by Murchison and others, and, though they may sometimes be due to embolism, it is said that hemiplegia may occur from arterial thrombosis, just as such thrombosis may occur in a limb and lead to gangrene. Disseminated sclerosis, disseminated myelitis, and and anterior poliomyelitis have all been found as sequelæ, but the paralysis of enteric fever is probably most frequently due to a neuritis. This may be a slight affection, and in this form is probably not very infrequent, perhaps limited to the feet, and giving rise to the so-called "tender toes of typhoid"; or it may be very extensive—affecting all the limbs, and associated with marked atrophy in addition to motor and sensory disturbances.

My first patient is an example of well-marked peripheral neuritis of both upper limbs, this neuritis having some features which are unusual, notably the marked asymmetry in its distribution. He is a young man of 20, who has just been invalided home from South Africa, where he was on active service. He was admitted to No. 3 General Hospital

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[1] **Read at a meeting of the Glasgow Pathological and Clinical Society held on 10th December, 1900.**

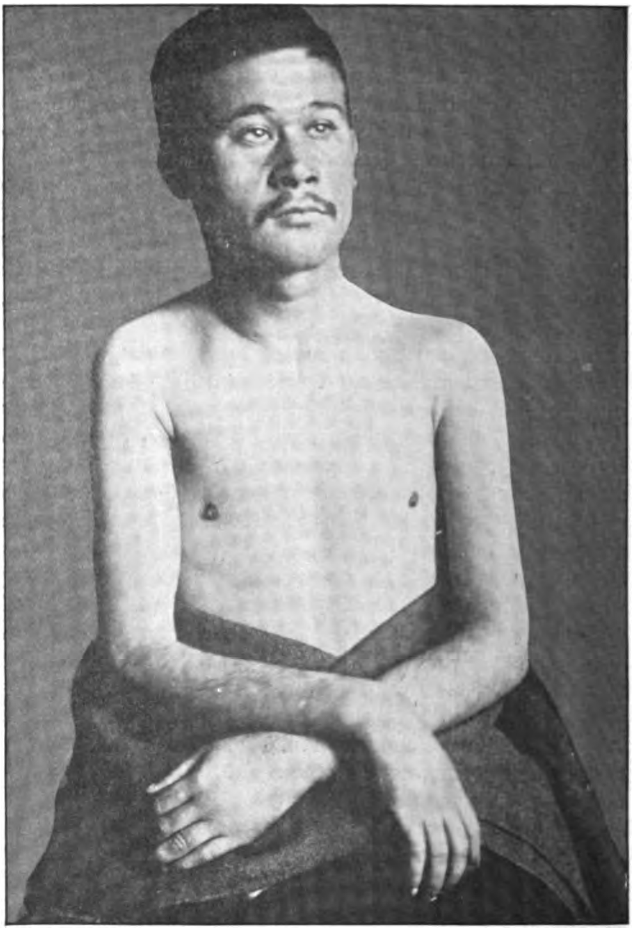

Fig. 1.

Shows the atrophy of the upper limbs, especially that of the right deltoid and of the left biceps. Wrist-drop is present, the patient being unable to extend either hand at the wrist more than appears in the photograph for the right hand. Swelling of the left hand is shown. (*Photo by Dr. John M. Smith.*)

at Kroonstad with enteric fever on 9th June, having had diarrhœa for about a week. He was very ill with delirium for the subsequent three weeks, and does not remember anything that happened. About a week later he developed severe pain in the right arm, especially at the shoulder, also numbness in the fingers, and within about two days

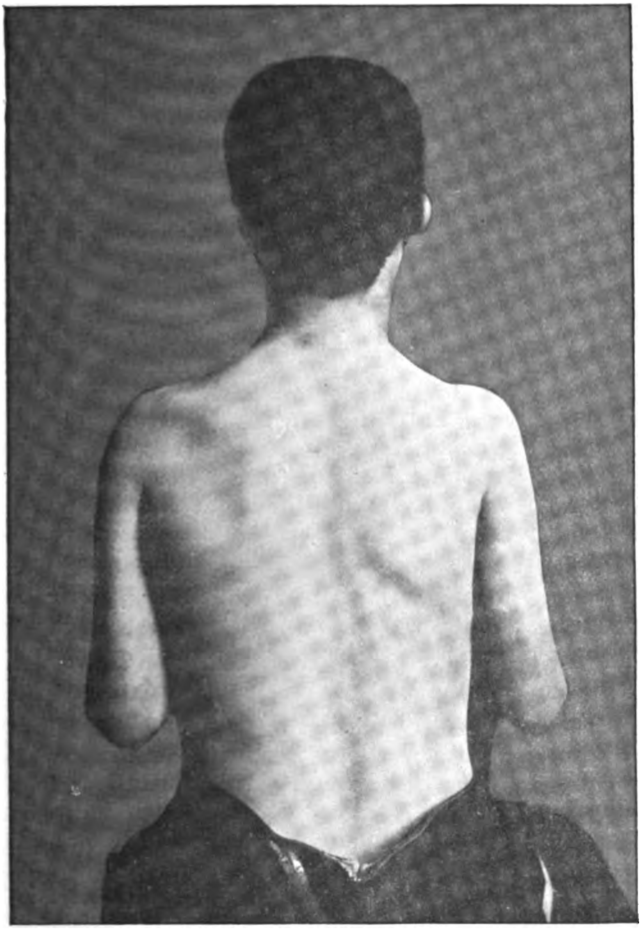

Fig. 2.

Shows the atrophy of the scapular muscles—especially on the left side—and also slight lateral curvature. (*Photo by Dr. John M. Smith.*)

there was practically complete paralysis of the right arm. Two weeks later the left arm, which he had been using instead of the right, became similarly paralysed, though not so suddenly and with less pain. As he recovered from the enteric fever his arms remained powerless and were very much wasted, and after treatment in several of the military hospitals he was invalided home. He came under my observation four weeks ago at the Western Infirmary Dispensary, and has been treated as an out-patient of the electrical department since then.

The patient is a healthy-looking and well-nourished young man, his muscles being of good tone except in the shoulders and arms. His previous health was always good, and he has not suffered from rheumatism or venereal disease. He had been always temperate in the use of alcohol in this country, and in South Africa could get none. He says that at the front, owing to the heat and dust, water was frequently drunk of a doubtful character, without either filtration or boiling, and this accounts for his contracting enteric. Nothing is discovered abnormal in the face, eyes, or tongue; and his back and legs are strong, though the knee-jerks are somewhat exaggerated, which is said to be a common feature in cases convalescing from enteric. In the arms there is very profound paralysis, so that the patient is able to do very little for himself. Practically all the muscles of the shoulders and arms are affected to some extent, but not symmetrically, and this is shown by the contrast in the wasting of the muscles on the two sides, as may be seen in the photographs. Thus, the right deltoid is much more wasted and weaker than the left, and while the right biceps is fairly good the left is so much wasted as to be hardly appreciable. The fore-arm muscles are also very weak, especially the extensors, and he has "wrist-drop" on both sides. There is pain on handling the affected muscles, but more especially on pressure on the nerve trunks. There is an area on the right hand and fore-arm, including the right thumb and first two fingers, the outer half of the palm of the hand, the outer half of the back of the hand and for a distance of about two-thirds up the back of the fore-arm on its radial aspect, where there is marked anæsthesia of tactile impressions. In the same area there is analgesia, loss of thermal sensibility, and absence of muscle sense, while this region is quite dry and cold, the other hand and the remainder of the right hand being flushed and perspiring. Tactile sensibility is good elsewhere, and there is, particularly in the left hand and arm, some hyperalgesia, to such an extent, indeed, as to render it somewhat difficult to make a detailed electrical examination. There is some tremor of the limbs, and the muscles are unusually sensitive to direct stimulation. A biceps-jerk is easily elicited on the right side, but otherwise the reflexes of the arms are absent. There is some swelling of the hands, which may be partly mechanical in connection with the wrist-drop, though it may perhaps be related to the vasomotor disturbance which is evidenced by the flushing and perspiring. In regard to the electrical reactions, it may be said generally that the reaction of degeneration is present in all the muscles of both shoulders and arms, though the increased sensitiveness of the patient makes it difficult to state the results in figures. In some of the muscles the reaction is only partial; in others, and those naturally the muscles that are most wasted, the reaction is more complete. For example, with faradic electricity the right biceps gives a ready response, while with galvanic electricity the series is A.C.C. 4 milliamperes and K.C.C. 10 milliamperes—this being a partial R.D. The left biceps, however, gives no response to faradic, and with galvanic electricity A.C.C. is got much more readily than K.C.C., though the patient is much too sensitive to allow the strength of the current to be recorded. Thus, in the atrophied left biceps the R.D. is complete. Similar details might be recorded in regard to all the other muscles, with somewhat similar results. The method of electrical treatment that has been adopted is the application of the faradic current to the muscles that respond to it, but the galvanic current to those that respond only to it. It would, no doubt, have been of greater benefit to the patient to have admitted him to the Infirmary, and have had massage practised as well as electricity, but he had been so long in the different military hospitals that he was very anxious to be treated as an outdoor case, and already considerable improvement has taken place.

The second case is one of hemiplegia which occurred suddenly in the fourth week of enteric fever, and from which the patient has only partially recovered. She is now 22 years of age, and was admitted to the Knightswood Fever Hospital with enteric on 29th May, 1897. In the fourth week of her residence there, when the worst of the illness was over, she was suddenly seized with right hemiplegia and aphasia. She was dismissed from Knightswood on 24th July, her recovery from the enteric being complete and her paralysis improving. She came under my observation in Sir William T. Gairdner's wards in the Western Infirmary in December of the same year, where she remained for six weeks. By this time considerable improvement had been gained, so that the aphasia had almost completely passed off; there was only slight evidence of facial paralysis; the lower limb was nearly recovered, though the gait remained hemiplegic, and the upper limb was still most affected, being rigid, somewhat contracted, and with all but complete paralysis of the extensors. The deep reflexes were markedly exaggerated on the right side, wrist-clonus being sometimes elicited as well as ankle-clonus. Treatment by massage and galvanism had little effect.

The patient's previous health has been good, except for the occurrence of measles and scarlet fever in childhood, and suppurative disease of both her ears, which resulted in considerable deafness, many years ago. She has not had chorea or rheumatism, unless one may so regard growing pains, which she had when at school, but not of such severity as to confine her to bed.

While the patient was in the Infirmary her case was studied especially in relation to the etiology of her hemiplegia. There was nothing to favour the idea of syphilis, and no evidence of renal disease, though on admission there was slight albuminuria, which did not persist. As to the cardiac condition, the reports in the ward journal indicate nothing definitely abnormal, the cardiac dulness not being increased and there being no murmurs, though the second sound was noted as very distinct at both the pulmonic and the aortic areas. However, on going over the case with his class Sir William Gairdner, though indicating that the evidence in regard to the pathological nature of the lesion was scanty and its interpretation ambiguous, directed attention to this, among other facts, that "there is a very distinct first sound in the apex area, which, however, it would be improper to call morbidly accentuated, and it is just possible to fancy, but without any clear evidence, that there may be a trace of A.S. murmur. There is, however, no distinct accentuation of the second sound over the pulmonic area."

This last note is of great interest, for when I visited this patient a fortnight ago, in her own home, I found that what had been suspected by Sir William was now an undoubted fact, and probably this gives the clue to her illness. She has now slight palpitation and dyspnœa on exertion, and at the apex of the heart there is a slight thrill, and on auscultation a short but distinct A.S. murmur is made out. The patient, therefore, has some mitral stenosis, possibly of rheumatic origin, which was no doubt present in a less marked form at the time of her enteric fever, and her hemiplegia was most probably embolic. The hemiplegia would thus seem to be rather a coincidence in the course of an attack of enteric fever than a true complication of that disease.

NOTES OF SURGICAL CASES IN THE WESTERN INFIRMARY.

BY J. CRAWFORD RENTON, M.D.

Hæmorrhage below the dura mater—Trephining—Recovery.—R. S., æt. 27, was admitted in January, 1898, suffering from an injury to the head. As he was being wheeled into the ward a slight twitching on the right side of the face was observed. He was unconscious, and in two hours he vomited and seemed to regain a certain amount of clearness. The day after admission he was conscious, but his only answer to every question put to him was the word "pet." He continued in this condition for ten days, when suddenly he became profoundly unconscious. Having observed the twitching on the right side of the face when he was admitted, I trephined over the face centre on the opposite side; when the dura was exposed no pulsation was observed, and on opening it a large recent clot was evacuated; a gauze drain was inserted. For two days the condition of the patient gave great anxiety, and there was no sign of returning consciousness until the third day, when he seemed to recognise the nurse. On the fifth day he returned to his former condition of answering all questions by the word "pet." Gradually his improvement increased, and he was able to give his name and address and some details of his friends. At the end of three weeks I asked him who "pet" was, to which he replied, "My mother." He has remained quite well since the operation.

Ruptured gastric ulcer—Operation—Recovery.—H. M., æt. 27, was placed under my care in the Western Infirmary by Dr. M'Gregor-Robertson and Dr. Souttar M'Kendrick, suffering from symptoms of a ruptured gastric ulcer. She had, five years previously, been treated in the Western Infirmary for hæmorrhage from the stomach in Professor Gemmell's ward.

Three hours before admission, on this occasion, she was seized with intense pain in the epigastrium, followed by considerable collapse, which had to a great extent passed off when she reached the Infirmary. She had, however, absence of liver dulness, with pain below both clavicles, and, on listening with a stethoscope over the epigastrium, a bell-like tinkling was heard.

After being prepared for abdominal section she felt so well that it was with difficulty she was persuaded to have the operation performed. On opening the abdomen gas and free fluid escaped, and the ruptured ulcer was easily found on the anterior wall of the stomach. The ulcer was surrounded with a dense mass of cicatricial tissue, the whole of the coats of the stomach being apparently involved, and extending upwards and downwards for a couple of inches. In these circumstances it seemed unwise to attempt cutting out the whole of the cicatricial tissue; the ulcer was therefore stitched, and a piece of omentum stitched over it to secure firmer union. A second opening was made into the abdomen, between the umbilicus and pubes, the whole cavity was cleansed with hot salt solution and the interior sponged as dry as possible, two glass drainage-tubes were inserted, one above the second below the umbilicus, the wounds stitched and dressed. The patient recovered without any trouble, and has remained well since.

Pan-hysterectomy—Recovery.—C. M., æt. 44, suffering from large uterine fibroid, was placed under my care by Dr. Armstrong. She was suffering so much, and losing so much blood, that I performed pan-hysterectomy, using Koeberle's serre-nœud to control the bleeding. She made a good recovery, and has since written reporting that she is quite well (eighteen months since operation).

Gastro-enterostomy.—J. D., æt. 48, was sent to me by Dr. Holms, of Paisley, suffering from a large pyloric tumour, with dilatation of the stomach; the tumour had existed for six months, and the patient had become much emaciated. On opening the abdomen the tumour was found adherent, and it was not possible to remove it; gastro-enterostomy was therefore performed, Senn's bone-plates being used to effect the union. The patient was very weak for some time after the operation, but now (eight months after) he has gained two stones in weight, and assures me that he is quite well, and has had no occasion to have his stomach washed out, which he did every two days previously. On examination of the abdomen no trace of the tumour can be felt.

Teale's operation for cicatricial contraction of lower lip.—A. D., æt. 12, was sent to me by Dr. Gracie, suffering from eversion and fixture of the middle of the lower lip to the chin, so that the teeth and gums in the lower jaw were fully exposed when the head was kept erect. The lip was divided into three equal portions; the two external divisions, having been freed by transverse incisions, were brought up and stitched together in the middle line, an incision was made at the base of the middle third, and the lower edge of the two outer thirds stitched to it. The parts healed at once, and the two lips were quite in contact with the head erect. When seen two months after the operation the everted mucous membrane had the look of skin, and it was difficult to tell that any operation had been performed.

Traumatic aneurysm at the bend of the elbow.—R. A., æt. 20, was sent to me by the late Dr. Crawford, of Biggar, suffering from a traumatic aneurysm of the brachial artery, with paralysis of the median nerve, caused by an injury two months previously.

On exposing the aneurysm the median nerve was found divided. The aneurysm was dissected out, the vessel being tied above and below it; the ends of the median nerve, being pared, were joined together with two catgut stitches. The patient progressed satisfactorily, and continues to be quite well (two years since operation).

CURRENT TOPICS.

Glasgow and West of Scotland Medical Association ("Glasgow Medical Journal").—The annual meeting of the Association was held in the Faculty Hall on 31st January, 1901—the Senior Vice-President, Mr. Henry E. Clark, in the chair. There was a fair attendance of the members of the

Association. The Treasurer's Report, submitted by Dr. T. K. Monro, showed a good balance in favour of the Association, and the Treasurer was able to announce an addition to the number of the subscribers. The Association received with regret the resignation of Dr. T. K. Monro as Treasurer, thanked him for his valuable services, and unanimously appointed in his place Mr. George H. Edington. The Editors' Report was adopted, and the meeting then proceeded to the election of office-bearers for 1901, of whom the following is the list:—

President,	MR. H. E. CLARK.
Vice-Presidents,	DR. ROBERT POLLOK. DR. W. K. HUNTER.
Editors,	DR. JOHN LINDSAY STEVEN. DR. THOMAS KIRKPATRICK MONRO.
Treasurer,	MR. GEORGE H. EDINGTON, 225 Bath Street.
Secretary,	DR. JOHN LINDSAY STEVEN, 16 Woodside Place.

General Business Committee.

DR. WM. R. JACK.
DR. P. S. BUCHANAN.
DR. R. S. PENMAN, Paisley.
DR. ALEC R. FERGUSON.
MR. GEORGE H. EDINGTON.
DR. JOHN M. COWAN.
DR. JOHN ROWAN.
DR. WM. G. DUN.

Expression was given to the sincere sympathy of the Association with the President, Dr. William James Fleming, in his long illness, and a cordial vote of thanks was unanimously passed for his valuable services to the Association.

This concluded the business.

DEATH OF DR. WILLIAM JAMES FLEMING.—It is with sincere regret that we have to intimate the death of Dr. William James Fleming, which took place at his residence, 3 Woodside Terrace, Glasgow, on 25th February, 1901, after a long and painful illness.

GLASGOW ROYAL INFIRMARY.—Dr. Hugh M'Laren has been appointed Extra Dispensary Physician.

NEW PREPARATIONS, &c.

TABLOID BRAND BETA-NAPHTHOL (Burroughs, Wellcome & Co., London).—In view of the taste and relative insolubility of this drug, it has been thought that the tabloid form might be convenient for administration. The tabloids contain 3 grains each, and are issued in bottles of 100.

TABLOID QUININE BISULPHATE AND POTASSIUM CITRATE (EFFERVESCENT) (Burroughs, Wellcome & Co., London).—Each tabloid contains bisulphate of quinine, 1 grain; and citrate of potassium, 15 grains. The tabloid may be dissolved in water, or better still, powdered before adding the water. In the latter case, the two drugs are taken in an effervescent draught. The tabloids are issued in tubes of 25.

BOVININE.—We have received a volume of clinical reports selected to show the value of bovinine in medical and surgical practice. The work is published "for the medical profession only" by the Bovinine Company, 66 Hatton Garden, London, E.C.

MEETINGS OF SOCIETIES.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

SESSION 1900-1901.

MEETING VI.—7TH DECEMBER, 1900.

DR. R. BARCLAY NESS *in the Chair.*

I.—THREE CASES OF DOUBLE CONGENITAL PTOSIS OCCURRING IN FATHER AND TWO DAUGHTERS.

BY DR. J. KERR LOVE.

Dr. Love showed two cases of double ptosis occurring in father and daughter in a family in which a third case also existed—that of a baby girl born only a few weeks ago. In all three cases the ptosis was complete. The only remaining member of the family was a boy, but he was free from the defect. Dr. Love operated on the father by removing a strip of skin about an inch long and half an inch broad from the upper eyelid, and stitching the edges of the wound. A striking photograph was shown, in which one eye is seen with the defect, and the other with the defect removed by operation.

The patient himself was shown with both eyes treated. There was no mark of the incisions, the lids were under the control of the frontalis muscle, and could be further raised as if in surprise. They could be perfectly closed. No watering of the eyes or other troublesome symptom followed the operation. The operation was done without an anæsthetic, and in the case of each eye occupied only a few minutes.

Dr. Andrew Wilson said the cases of congenital ptosis which Dr. Love has brought before us to-night are very marked examples of a condition which we oftener see in a less pronounced form. Most authors are agreed on the point that congenital ptosis is more commonly met with in the female members of a family, although this is by no means always so. Generally, congenital ptosis does not occur as an isolated muscular lesion, but is associated with defective development or absence of some of the purely ocular muscles, specially the superior recti. Hirschberg relates the case of an adult male who had congenital double ptosis and paralysis of all the ocular muscles, incomplete in the superior oblique and the internal muscles, whose mother presented a similar condition, while his son had congenital double ptosis and paralysis of the superior recti. Most methods of treatment aim at raising the lid by increasing the effect of the occipito-frontalis muscle, but, unfortunately, these operations leave very marked cicatrices. Resection and advancement of the levator palpebræ tendon, or in paralysis of the levator palpebræ, the superior rectus, have also been advocated. The result in Dr. Love's case is to be entirely attributed to the shortening of the lid by the excision of a fold of skin; there is no levator action proper, any power the patient has of raising the lids being entirely due to the action of the occipito-frontalis.

II.—NOTES ON CASE OF EMPYEMA OF THE GALL-BLADDER.

By Dr. Alfred Young.

L. P., a boy of 6 years of age, came under my care at the Sick Children's Dispensary on 3rd July, 1900, with a large swelling in the right hypochondriac and right half of the epigastric regions. The swelling measured superficially about 5 inches from the middle abdominal line outwards to the right, and about 4½ inches from the costal margin downwards. The skin over it was unaltered, except over a small area midway between the umbilicus and the ensiform cartilage, where it was thinned and reddened. Fluctuation could be made out, and I came to the conclusion that I had to do with an abscess, pointing in the middle line of the abdomen, extending outwards to the right beneath the abdominal muscles, and situated probably within the abdominal cavity. The lower border of the liver could not be felt, but with the abdominal muscles relaxed I could define and palpate the lower limit of the swelling, and it appeared to pass backwards under the liver, and to be situated inside the abdominal cavity rather than in the parietes.

There was no fever, and the swelling was not accompanied by much pain.

The history of the case was that about three weeks before a small lump appeared below the right costal margin, situated near to the ninth costal cartilage. The mother thought it had been caused by a blow, but on inquiry no definite history of injury could be obtained. There had been no pain at first, except on vigorous movement or rough handling; but, as the swelling gradually got bigger and approached the middle line, the pain became more constant, and poultices were applied. There had been no rigors, no shivering fits, and no jaundice, nor any symptoms pointing to the presence of gall-stones.

I could not be sure whether the abscess was connected with the gall-bladder or not, but as it was on the point of bursting I determined to open it. Chloroform was given, and a very small incision made in the mid abdominal line where the abscess was pointing. A large quantity of greenish pus, thick at first and more watery afterwards, was evacuated, and a probe was passed down to the under surface of the liver to about the situation of the gall-bladder. A drainage-tube was then inserted, and dressing applied.

Some of the pus was collected in a sterilised drainage-tube, and next day there stood at the top of the tube about two inches of clear, greenish viscid fluid. On examination, no organisms could be seen with the microscope, and no cultures could be obtained from the pus. The pus cells were markedly fatty. Much mucin was present, and the colour reactions of bile were obtained from the fluid.

On 5th July (two days after operation) the drainage-tube was removed as there was very little discharge, and I was in hopes that the small wound would heal up, and allow of any further treatment in regard to the gall-bladder being postponed to a more convenient season. On 8th July the wound had closed.

Unfortunately, about a week after the operation, the patient developed measles at home. A dressing was applied by the Sister, and the friends were instructed not to remove it. The child evidently suffered from severe catarrhal symptoms during the course of the measles, and the mother, applying hot poultices with more vigour than discretion, scalded the tender skin over the area where the abscess had been opened, giving rise to sloughing and ulceration.

By the beginning of August the patient had recovered from measles, and the condition of the surface of the abdomen in the region of the wound had been much improved by boracic dressing.

On 24th August the patient was admitted to Ward XI of the Western Infirmary, where I was taking duty for Dr. Beatson. There was a granulating surface in the epigastric region, surrounded by cicatricial tissue. This area healed up in about ten days, but a minute sinus, situated about an inch to the right of the middle line, persisted. This was dressed every few days with plain sterilised gauze, and the small amount of discharge collected in the dressing was examined from time to time and found to contain mucin, but no bile. About the end of September I passed a fine probe into the sinus down to the under surface of the liver, and afterwards with a very fine sharp spoon scraped the walls of the sinus. A few days afterwards the patient had a well-marked attack of jaundice, which lasted two days, and passed off. It was unaccompanied by any pain or fever. The sinus soon closed, and the patient was dismissed well about the middle of November. It was not deemed advisable to subject him to any further operative treatment, as he appeared to be so well, and suffered from no pain, fever, or jaundice.

In the absence of any definite cause for this affection of the gall-bladder, I can only suggest that there was some catarrhal condition of the cystic duct or gall-bladder leading to obstruction of the duct and the subsequent empyema. There was no evidence of gall-stones being present, although that, of course, is a possible explanation of the state of matters. The hepatic and common bile-ducts appear to have remained unaffected, or at least not affected to any great extent, except after the probing of the sinus in September, when a transient jaundice occurred. The cystic duct has now either become pervious, or the gall-bladder become obliterated.

[*26th January, 1901.*—The patient was seen to-day, and has been in excellent health since leaving the hospital. There is a weak cicatrix in the epigastrium and right hypochondrum, about an inch and a half square, and its outer aspect appears to be adherent to the liver. There is a slight tendency to hernia, through the scar in the mid abdominal line, but otherwise the patient is very well. No swelling in the region of the gall-bladder can be detected. This unfortunate hernial condition, I think, is largely to be accounted for by the accident with the poultices.]

Dr. Carslaw spoke of the absence of jaundice in this case, except after the scraping out of a sinus. He agreed that it was likely that a gall-stone had been present, and that the original condition had been one of catarrh of the cystic duct, leaving the common bile-duct free. The transient attack of jaundice had, no doubt, resulted from some inflammatory disturbance involving the bile-ducts. Dr. Young was to be complimented on the success of his treatment of the case, in spite of the incidents which had disturbed its progress.

III.—SPECIMEN OF CEREBELLAR TUMOUR, FROM A CASE IN WHICH THE CHIEF SYMPTOM WAS DAILY VOMITING OF SEVERAL MONTHS' DURATION.

By Dr. J. Lindsay Steven.

Dr. Lindsay Steven's communication will appear in a future issue of the *Journal.*

IV.—TUBERCULAR DISEASE OF THE HIP-JOINT.

By Dr. J. Grant Andrew.

Dr. Andrew's paper will be published *in extenso* in vol. iii of the *Transactions.*

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.

SESSION 1900-1901.

MEETING III.—10TH DECEMBER, 1900.

The President, MR. H. E. CLARK, *in the Chair.*

I.—TWO CASES OF PARALYSIS IN ENTERIC FEVER.

BY DR. JAMES CARSLAW.

Dr. Carslaw's paper appears as an original article at p. 179.

Dr. J. M. Cowan asked if peripheral neuritis occurred in the lower limbs in enteric fever pure and simple. He thought that the large doses of alcohol given in the course of the treatment had something to do with the causation of the neuritis. In Kroonstaad he had observed slight neuritis affecting the legs was more common than in this country; this he attributed to the often improperly applied "puttees" which the troops wore when on active service.

Dr. Workman thought it doubtful whether Case I was a pure peripheral neuritis. It was possible that it was complicated by poliomyelitis due to exposure, heavy lifting, &c.

II.—BUBONIC PLAGUE.

BY PROFESSOR MUIR.

Professor Muir gave a microscopical demonstration of some of the bacteriological features of bubonic plague. He also illustrated his remarks by lantern slides, and by cultures of the bacillus pestis; and he exhibited a bubo.

Dr. Workman inquired as to mixed infection. He had made a *post-mortem* examination in one case. He had not examined the thoracic organs, but in the cultures which he had made from the spleen and from an axillary bubo, there were diplococci present in large numbers in addition to the bacillus pestis. The diplococcus stained by Gram's method, and he considered it either a pneumococcus or akin to that organism.

Professor Muir, in reply, said that he would not like to pronounce definitely on the question of the diplococcus, as he was not familiar with descriptions of pneumococci occurring along with the plague bacillus. The presence of the pneumococcus might easily be overlooked, as it grows with difficulty in agar media, and it also resembles somewhat some of the forms of bacillus pestis. The association is not by any means common, but may frequently be overlooked owing to the difficulty of successful cultivation mentioned above.

III.—SKIAGRAMS OF TUMOURS CONNECTED WITH BONE.

By Dr. George T. Beatson.

Dr. Beatson showed a series of specimens of tumours connected with bone; several of them being further illustrated by skiagrams taken before operation. There were eight tumours in all, of which six were sarcomata, one a carcinoma, and one an enchondroma. The bones involved were the clavicle, the scapula, the humerus, the ulna, a metacarpal bone, the femur (two specimens), and the tibia. In his remarks, Dr. Beatson explained that he had brought the cases forward, not as indicative of any new pathological fact, but as illustrative of certain special points (some of which are generally admitted, while others belong to these cases individually) bearing on the etiology and clinical diagnosis of tumours of bone.

Of the series of tumours, seven were *primary* growths and one was *secondary.* Of the former, four occurred in young females and three in males, while the single example of secondary tumour was obtained from a female, aged 50. Of the male cases, all the patients were over 60 years of age. *Histologically,* the sarcomata contained types of the round-celled and the myeloid varieties, and furnished examples of growth from the marrow and the periosteum of the bones involved. Of these bones, some, as the humerus, femur, and tibia, are ones commonly affected, but the ulna, the scapula, and the clavicle, are rarely so. In some of the cases, *injury* had apparently some connection with the appearance of the growth, in others not. The *destructive action of the sarcomata on the bones* affected was well demonstrated in all the specimens shown, while alongside of this, in one or two of them, there were indications of the formation of spicules of new bone taking place.

As regards *fracture,* sarcomata are known to have two relations to this condition—viz., that they cause it; and, secondly, that they result from it. One of the cases of sarcoma of the femur was of interest as regards this point, for the tumour was situated in the lower fragment of an ununited fracture that had been successfully wired by Lord Lister twenty-five years ago, but the line of fracture was *not* the seat of origin of the tumour.

The *enchondroma* of the metacarpal bone was in size and shape something like a jargonelle pear, and it had apparently been a central growth at first, and had afterwards burst through. Its effect on the adjacent bones was instructive, for though it had bent somewhat the neighbouring metacarpal bones, and had given them a bow-legged appearance, it had not invaded them. In connection with the other specimens shown, this case has an interest in that cartilage is the only connective tissue exempt from sarcomata. It is never the seat of primary growths of that kind.

Before concluding, Dr. Beatson drew attention to the value of *skiagraphy* in bony tumours, and insisted on the necessity of a careful study of each case, remembering that sarcomatous tissue in itself is not demonstrated by the Röntgen rays. To be so demonstrable, it required the presence of a certain amount of bony material or of spaces filled with fluid (cysts).

Dr. Renton agreed with Dr. Beatson as to the indefinite amount of information got by skiagraphing tumours of the bones. He instanced a case where the photograph showed very doubtful appearances; the diagnosis of sarcoma was made certain only after microscopical examination of a piece of the tumour removed through an exploratory incision. In another case, where there was thought to be a sarcoma of the lower end of the radius, the skiagram was very indefinite; incision showed the condition to be one of abscess. In this case the want of definiteness was probably, as Dr. Beatson mentioned, due to the presence of fluid. He thought that in these cases skiagraphy left one in doubt as to whether the condition was one of tumour or of a collection of fluid, or of both together.

Mr. H. E. Clark thought that more experience in the interpretation of skiagrams was required. Some of these cases of bone-tumour were indistinguishable from tubercular osteomyelitis, the outlines often being shown, but not the interior.

IV.—UTERINE MYOMATA WITH LARGE BLOOD CYST OF THE LEFT OVARY: HYSTERECTOMY.

By Dr. A. W. Russell.

I have asked permission to show this specimen to the Society because there are several interesting features in the case.

The patient, a cook, 41 years of age, complained of pain and slight swelling of the left ankle, which she said had been sprained several weeks previously, and had again become painful. The pain was worst in the heel, and there was œdema above the malleoli, but there were none of the usual signs of sprain. The part was bandaged, and rest for a day or two was prescribed. The urine was in the meantime examined and found to be normal. When the patient was examined carefully in bed a few days later, the œdema could be traced to the knee, there was pain in squeezing the calf of the leg, and the superficial veins were varicose, distended, and prominent over the inner aspect of the knee. Though the course of the vein up the thigh seemed to be unusually tender to pressure, no thickening or cording of it could be felt. Some condition causing pelvic pressure had been suspected even at the first examination, and when the abdomen was now uncovered two low prominences of the otherwise concave abdominal wall were seen. One, in the middle line, was hard, and suggested myoma of the uterus; the other, on the left, was softer and obscurely fluctuant. The patient was quite unaware of the existence of these swellings. By vaginal examination both tumours were found to extend deeply into the pelvis posteriorly, the cervix uteri, which was small and nulliparous, being immediately behind the symphysis pubis. A day or two later an examination under an anæsthetic confirmed the previous examination, and the sound passed forwards for nearly 2½ inches, and could be felt bimanually just above the symphysis. In this part the tissue seemed to be less dense, and it was concluded that the uterus was small and lay in front of the myomatous masses. The lower part of the tumour on the left side was thickened and not so smooth, and was taken to be the left ovary.

In deciding as to the operation, some anxiety was felt as to the condition of the veins on the left side and the possibility of thrombosis. With rest the patient seemed to improve, and a few days later the operation of abdominal hysterectomy was performed, as it was found on opening the abdomen that enucleation was impossible. With the help of a rubber tourniquet round the cervix very little blood was lost, and it was found to be possible to bring the peritoneal edges together over the whole wound area in the pelvis. The venous plexus in the left broad ligament was noticed to be turgid and much larger than usual. The patient, who had a history of feeble digestion and was rather anæmic, suffered considerably from depression and persistent sickness, so that it was difficult to maintain her nutrition and to get her bowels to act.

The temperature rose on the second day to 100·6°, then became normal, the pulse ran at 96 as an average, and there was no abdominal pain and very little flatulent distension. On the sixth day the depression cleared off, and convalescence seemed to be secured. After castor oil a quite satisfactory movement of the bowels was effected on the morning of the seventh day, and an hour or so later the patient was observed to be ill. The temperature was still normal, but the pulse and respirations were considerably quickened. The expression was also anxious. A slight swelling of the left leg and a purplish discolouration of the foot were noted. The abdominal wound was uncovered for examination, and was found to be quite healed up without sign of irritation; and there was no abdominal tenderness nor tympanites. She sank rapidly in spite of strychnine and stimulants, consciousness being maintained to the last, and the temperature only rising once to 100·8°, while the pulse quickened to 160 and the respirations to 60 per minute.

A *post-mortem* examination was refused.

Remarks.—The specially interesting points are—

1. *The diagnosis.*—The occurrence of œdema in one leg only, the turgid condition of the veins, the pain in the heel and sole of the foot, the tenderness along the course of the vessels, all suggested the probability of pressure in the pelvis, and gave rise to questions as to the effect of this on the circulation if it should be decided to operate. In another case of large pelvic myoma under my care, the condition had reached the stage of phlegmasia, with very tender, apparently phlebitic, patches in both legs when I saw her first, and no abdominal tumour had been suspected. After about six months of complete rest, with suitable applications, the swelling completely disappeared, the myomatous mass having in the meantime increased in size and risen up out of the pelvis. It is quite evident that we may get thrombosis in such cases without the presence of septic organisms.

2. *The cause of death.*—This seems very evidently due to the extension of the process of thrombosis in the already weakened vessels, and probably the detachment of an embolus which was carried to the lung. It is possible that in this case, besides the weakening of the vessels and slowing of the blood stream owing to pressure of the tumours, the anæmia may have favoured the occurrence of thrombosis.

3. *The tumours.*—The uterus, when cut up after removal, was found to have been retroflexed acutely during its growth, the sound having only reached the bend at 2¼ inches. The cavity extended downwards and backwards for at least an inch and a half. About eight or ten very dense myomatous masses were clustered round the uterus and in its structure. Some of these showed calcareous spicules. The unusual feature of the ovarian cyst was its dark-brown, thickly fluid, granular contents, which consisted entirely of much altered blood, showing under the microscope only a few corpuscles along with much fine granular *debris*, and a few larger round granular bodies. The chemical reactions were those of blood. The spectrum was doubtful, but was possibly methæmoglobin. I have to thank Dr. Carstairs Douglas for examining the cyst contents. The cyst measured over 6 inches in its largest diameter, and its capacity was 7 oz., a very unusual size for a cyst of this character.

MEETING IV.—14TH JANUARY, 1901.

DR. ALEX. ROBERTSON *in the Chair.*

I.—THREE PATIENTS THE SUBJECTS OF HYPERTROPHIC CIRRHOSIS OF THE LIVER WITH ENLARGEMENT OF THE SPLEEN (HANOT'S DISEASE).

BY DR. ALEX. NAPIER.

The three patients are those described on a former occasion by Dr. Finlayson.[1] Dr. Napier submitted the following notes of the cases:—

CASE I.—Woman, aged 22, admitted to the Victoria Infirmary on 8th December, 1900, with a history of having been jaundiced for the last six years. At the age of 6 years she suffered from

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[1] *Glasgow Hospital Reports*, 1899, p. 39.

"gastric fever," and when aged 16 she had an attack of what seemed to be acute nephritis. From this she made a good recovery, but one month later she began to yellow. The jaundice had an insidious onset, and was unaccompanied by any pain; it has never since entirely disappeared. Four years ago an ulcer appeared on the right leg, and has persisted.

On admission, her appetite was good; there were no digestive disturbances, but the motions were rather pale. She had moderate itching, and her skin presented some acne spots. The conjunctivæ were stained.

Heart.—Transverse dulness measured 2¾ inches. There was a V.S. murmur faintly heard at the apex, but more loudly at the base, especially to the right of the sternum. At the apex of the right lung the sounds were clear.

Lungs, normal.

Liver.—By defining the lower margin by palpation and the upper by percussion, the area of dulness was found to measure 5 inches in the mid-clavicular line.

The *spleen* measured, in its long diameter, 9 inches. There was a clear area between the two viscera, which were hard and resistant.

The *urine* was non-albuminous, and there was no decided bile-reaction. The addition of acetic acid gave a brown stain.

Menstruation occurred once, at the age of 16, and it has never appeared since. On that occasion there was great abdominal pain, and also backache.

Blood estimation.—The red corpuscles were just over 3,000,000; the white numbered 22,000. No corpuscles of any pathological importance were seen; there was simply a leucocytosis.

It was thought at first that the case was one of splenic anæmia, but the family history (*vide infra*), and further investigation of the condition, led us to consider the case an example of hypertrophic cirrhosis.

The following two cases are brothers of the above-mentioned patient:—

Case II.—Aged 21 years. Four years ago this patient began to suffer from itching of the skin. This was at first confined to the interdigital clefts, but gradually spread over the surface of the body and limbs. It was followed by yellowness, varying in depth, and commencing in the eyes. He suffered also from cramps in the legs and fingers, and he had copious eruptions of boils. He noticed the belly swollen after meals; the stools were white and clay-coloured, and he had diarrhœa. The urine was greenish. In May of 1898 he was sent into the Western Infirmary by his medical attendant, Dr. Muir, of Bellshill. He remained there for eight weeks under Dr. Finlayson's care.[1]

Pains in the shoulder, knees, and ankles appeared two years ago.

CASE III.—Aged 16½ years. Two years ago he observed swelling of the abdomen in the upper part, and he suffered from epigastric pain. The swelling increased so that ultimately he had to loosen his clothes after a meal. Potatoes especially were found to bring on the pain. The urine became dark a year ago, and since, the stools have been pale. For the last twelve months his colour has been slightly yellowish, and he has had itching of the skin. At times he feels tired, and has stiffness of the joints.

Both lads work at the pit.

Dr. Finlayson remarked that the credit of the discovery of these three cases rests with Dr. Muir, of Bellshill. Dr. Muir had sent in the older brother to the Western Infirmary. On the lad's second visit to the infirmary, it was found by Dr. Muir that a sister and a brother were similarly affected. With regard to the etiology of the condition, syphilis and alcoholism both came into question. Heredity is important in its bearing on the pathology (compare with the family tendency to congenital obliteration of the ducts). Commenting on the resemblance to splenic anæmia, he considered that a diagnosis of that disease was often made wrongly. He had lately seen a case presenting typical symptoms. The patient had been in the ward on two or three occasions with relapses following recoveries. Professor Muir had examined the blood several times. On the last occasion of his admission to the ward he had ascites, and he died in the hospital. The *post-mortem* showed the condition of cirrhosis of the liver, with consecutive enlargement of the spleen. There had been no history of alcoholism, and the liver had not been enlarged to begin with.

Dr. Alex. Robertson had seen only individual cases in families. Cases such as Dr. Napier's must be distinguished from alcoholic and from obstructive jaundice, gall-stones, and hypertrophic cirrhosis.

Dr. Napier, in reply, said that the question as to the cause of the condition was of great interest. In the girl's case the acute nephritis had been followed by sore throat, spots on the body, and falling out of the hair. Since admission to the Victoria Infirmary she had been treated by iodide of potash along with mercurial inunction for four weeks. Her skin had become clearer, she had gained weight (7 st. 2 lb. on admission, now 7 st. 5 lb.), and she felt better. This, he thought, pointed suspiciously in the direction of syphilis as a factor in the etiology.

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[1] *Vide supra.*

II.—JACKSONIAN EPILEPSY IN A CHILD AGED SIX YEARS.

By Dr. Alex. Napier.

This child, as shown, has completely recovered. The last attack took place on 21st December, 1900, since when she has remained free. She was admitted to the infirmary on 5th December, with a history of "fits" of three weeks' duration. She had fallen over a banister five months before, and was supposed to have received some injury, of trifling description, if any. The head was not known to have been injured. The fits commenced three weeks ago, and were repeated several times, up to twenty, *per diem*. A "fit" presented the following characteristics:—Loud snoring inspiration, followed by the patient turning sharply to the left, clonic spasms in the right arm from the hand up to the head, and in the right leg passing downwards. In severe attacks there was twitching on the left side. If recumbent at the time of onset, the patient sat up and then turned to the left. Consciousness was never lost, touching the conjunctiva or pricking the skin with a pin being responded to. Chest, abdomen, and urine, were normal.

An *aura* was present in the form of a severe pain at the base of the first metacarpal (right). When this occurred, grasping the wrist seemed to prevent the development of the attack. The following scheme gives the number *per diem* of seizures:—

Dec. 6,	15 attacks.	Dec. 14,	31 attacks.
„ 7,	28 „	„ 15,	41 „
„ 8,	21 „	„ 16,	36 „
„ 9,	32 „	„ 17,	26 „
„ 10,	37 „	„ 18,	29 „
„ 11,	28 „	„ 19,	19 „
„ 12,	43 „	„ 20,	11 „
„ 13,	29 „	„ 21,	2 „

Treatment.—She got at first chloral and bromide of potash.

This made her drowsy, but attacks still occurred, though not of such long duration. On 13th December she was put on iodide and bromide of potash; the fits then lessened both in number and duration. She has not been taking any drugs since 1st January.

Dr. Alex. Robertson thought that the improvement on the exhibition of iodide supported the view that there had been a slight traumatic change in the motor area on the left side. He hoped that the lesion had been permanently cured. He had had a case under observation for some years now. The attack affected the great toe, leg, arm, and sometimes was generalised. The patient was a woman, 30 or 40 years of age. A string passed round the thigh and pulled on was sufficient to check the fit. An operation had at one time been thought necessary, but instead medical treatment had been persisted in. Bromide of potash alone and in combination had been given internally, along with application of liniment of aconite to the dorsum of foot and to the great toe. The seizures became fewer, but were not entirely abolished. Twice yearly or so there is slight *pétit mal;* this interferes with neither her intellectual power nor her usefulness in the house, and she is able to cycle. She has been taking the bromide for the last fifteen years.

Dr. James A. Adams asked if the skull, eye, or ear, had been examined, or if the family history had been inquired into.

Dr. Napier replied in the negative. With regard to Dr. Robertson's remarks, localisation had suggested surgical interference, but the patient had improved just before being transferred to a surgical ward. He had known of cases taking single doses of bromide of potash daily for twenty years. The combination with 2-minim doses of liq. arsenicalis seemed to have prevented the occurrence of bromide eruption.

III.—BIBLIOGRAPHICAL DEMONSTRATION ILLUSTRATIVE OF PHYSIOGNOMY, AND ESPECIALLY THE PHYSIOGNOMY OF DISEASE.

By Dr. James Finlayson.

The notion of the external frame giving expression to the character of the individual, and the comparison of men in this regard to beasts, can be traced back to early times, and especially to Aristotle; but from our present standpoint we may begin with an Italian, Baptista Porta. He traced resemblances between men and the lower animals, and made an attempt to expound a doctrine of general physiognomy. The whole body had to be considered in this light, but special portions were seized upon as the most expressive. To some the hand was all important, and so arose the doctrines of cheiromancy. This subject was taken up by Indagine. With most writers, however, the expression of the face was particularly instructive, while with others the size and the shape of the head were supposed to indicate general capacity. Very special qualities were found, according to the prominence or special conformation of particular portions of the cranium—the so-called "bumps"—and on these were based the doctrines of phrenology, from which, in the early parts of last century, so much was hoped for. Phrenology and physiognomy were closely allied, and were expounded by Spurzheim as correlated.

Lavater produced an elaborate work on physiognomy, which gathered up everything he could find from Porta and all other available sources in history, mythology and art; but the practical importance of Lavater's studies seems to have been but small. Modern treatises have attempted to follow up the subject, for it was felt that underlying it there was a reality. The work of Sir Charles Bell, some eighty years ago, on *Expression*, and the more recent treatise of the great naturalist, Darwin, gave a fresh impetus to the search after a rational doctrine of physiognomy.

Meanwhile, the introduction of photography gave immensely greater facilities for fixing and promulgating illustrations obtained from living subjects or from works of art. With rare insight, Duchenne of Boulogne sought to illustrate by photography the effect of electrical stimulation on special muscles or groups of muscles in producing the physiognomic expression of feelings and emotions; and so we have represented surprise, amusement, contempt, &c., brought out in a man's face by the mere use of electrodes, apart from the feelings referred to.

The perfecting of instantaneous photography, and the production of a series of such photographs in an incredibly short space of time, rendered it possible to study movements also, and various photographs of Muybridge show the varying phases of expression in the face of a cricketer preparing to strike a ball and after he has struck it, or the aspect of a woman receiving an unexpectedly cold douche of icy water. This is essentially the basis of the wonderful living pictures of the cinematograph. Some application has been made of this to disease.

Coming now to the *physiognomy of disease,* one of the earliest to try to put in words the physiognomic expression of disease was Professor Laycock, who also illustrated his article by portraits. No doubt the dermatologists had earlier precedence in their delineation of patients with skin eruptions, but these may be passed over as being of a different nature from the subject which we are considering. Nervous diseases were the first to come in for more systematic illustration—some of Laycock's being of this class. These diseases were also illustrated by Corfe, Morison, and M'Lane Hamilton. Examples of the value of instantaneous photography in catching passing emotional expressions, were obtained in Charcot's clinique. Bramwell's splendid *Clinical Atlas* took up all sorts of diseases, utilising published illustrations and photographs from life.

Lastly, we have composite photography—so far a failure—but with possibilities in it.

Dr. Finlayson's remarks were illustrated by the following works from the Library of the Faculty of Physicians and Surgeons:—

Lavater, J. G., *Physionomie*, two vols., 4to, Paris, 1781-83.

Porta, Giovan Battista, *Della fisionomia dell'huomo libri sei*, 4to, Venetia, 1644.

Baumgaertner, K. H., *Kranken Physiognomik* (Atlas), Stuttgart und Leipzig, 1839.

Salpêtrière, *Iconographie photographique de la Salpêtrière*, 1876-81; continued by the *Iconog. Nouvelle* up to the present time.

Mantegazza, P., *La Physionomie et l'expression des sentiments*, avec planches, 8vo, Paris, 1885.

Sanders, Richard, *Physiognomie, chiromancie, &c.* (with woodcuts), folio, London, 1653.

Adamantius, Sophista, *Physiognomonicon*, 12mo, Basileæ, 1544.

Bell, Charles, *Essays on the anatomy and philosophy of expression*, second edition, 4to, London, 1824.

Tebaldi, A., *Fisionomia*, 8vo, Verona, 1884.

Duchenne, *Mécanisme de la physionomie humaine, &c.;* also *Atlas*, Paris, 1876.

Darwin, *Expression of the emotions in man and animals*, London, 1872.

Spurzheim, J. G., *Phrenology in connection with the study of physiognomy*, Part I—Characters, with 34 plates, 8vo, London, 1826.

Morison, Sir Alexander, *The physiognomy of mental diseases*, with 106 portraits, 8vo, London, 1840.

Voisin, Auguste, *Maladies mentales, &c.*, second edition, with plates, 8vo, Paris, 1883.

Hamilton, Allan M'Lane, *Types of insanity* (portraits), 4to, New York, 1883.

Stanton, *Physiognomy*, 1890.

Indagine, I., *Chiromantia*, 1531.

Monton, *Physionomie comparée*, 1885.

Corfe, George, *The physiognomy of diseases* (with plate), 4to, London, 1849.

Mahomed and Galton, *Guy's Hospital Reports* for 1881 (composite photography).

Jordan, Furneaux, *Anat. phys. character*, 1886.

Laycock, *Med. Times and Gazette*, 1862, vol. i.

Bramwell, Byrom, *Atlas of clinical medicine*, three vols., 1891-99.

Muybridge, *Animal locomotion*, 1887.

IV.—SPECIMENS.

A. By Mr. A. E. Maylard.

1. Specimen of *complete prolapse of rectum* removed from a woman, aged 54 years, by Miculicz's operation. The prolapse had been present for about twenty-three years, and seems to have had its origin in carrying for some distance a heavy weight. For some time she received considerable relief by using an indiarubber plug, which was so secured as to retain the prolapse. The prolapse, just prior to operation, measured 6 inches in length and 9 inches in circumference at its base.

The patient made a good recovery.

2. Specimen of *ruptured jejunum* excised by operation from a man, aged 25. The patient had been badly crushed between two lorries. Five hours after his accident the abdomen was opened. On opening the abdomen, a rupture of the small intestine was found immediately in the middle line, just where pain had previously been complained of. Other parts of the bowel were evidently bruised, and there was commencing general peritonitis, from which the patient died twenty-seven hours after the accident. The aperture into the small gut admitted the index-finger, and had lacerated margins, with considerable injection all round.

The specimen, on looking at it, suggests very much the appearance as if the bowel had been burst by pressure from within, rather than torn as the result of external forces.

B. By Dr. E. A. Gibson.

1. The specimen was removed on 15th November, 1898, from an unmarried woman, aged 42. The chief symptom was menorrhagia, which had increased very much of late, and for the last six weeks before I saw her she had never been

dry. She was very anæmic. Bowels moved only after a cathartic, and with pain.

Abdominal examination revealed a hard, smooth tumour, reaching from the pelvis to the umbilicus, and situated more on the right than left side.

Vaginal examination.—Under chloroform, I could only introduce one finger. The cervix uteri was drawn up beyond reach, and Douglas' pouch was occupied by a tumour which could not be moved.

On opening the abdomen, the bladder presented in front of the tumour, and was separated and pushed down. The broad ligaments were ligatured, and cut to two-thirds of their extent—when it was possible to deliver the part of the tumour which occupied Douglas' pouch, and which was fixed under the promontory—the division of the broad ligaments was then completed. The bladder was entirely separated from the tumour and the anterior vaginal fornix was divided. Douglas' pouch was then opened from below, the uterine arteries were ligatured, and the tumour was removed. The vaginal vault was finally closed with sutures.

The tumour weighed, on removal, 4 lb. 2 oz., and was of markedly hour-glass shape. It consists of two masses, both of which are interstitial—one in the anterior uterine wall, and one in the posterior. The one in the anterior wall had developed into the abdominal cavity, and the posterior one had remained in the pelvis and had become fixed under the promontory of the sacrum.

2. The specimen was removed on 15th December, 1900, from a nulliparous married woman, aged 45. A month before operation her doctor, on being called, found her bleeding profusely from the vagina, and almost pulseless. The bladder was distended to above umbilicus, and she could never pass urine naturally till after the operation. She stated that she had had some severe bleedings before, but never much trouble with her urine, and that her bowels could only be moved by enemata.

On vaginal examination a tumour was found entirely filling the vagina, and extending upwards into the abdomen to half way between the symphysis pubis and the umbilicus. It was firmly fixed in the pelvis.

On opening the abdomen, the bladder presented, and was treated as in the first case. On the right side there was an ovarian tumour, the size of a goose's egg. This was removed, but, unfortunately, was not preserved. The operation was similar to the first, except that there was more difficulty in getting the tumour from under the promontory, and the cervix was not removed.

The tumour, on removal, weighed 2¾ lb., and was very soft. It is of the submucous variety, and arises from the anterior and right wall of the cavity of the uterus. It has a broad base, and shows no tendency to pedunculation.

There are two small subserous nodules situated on the fundus.

OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

SESSION 1900-1901.

MEETING III.—28TH NOVEMBER, 1900.

The President, DR. ROBERT JARDINE, *in the Chair.*

I.—GLASGOW MATERNITY HOSPITALS: PAST AND PRESENT.

BY DR. ROBERT JARDINE.

Dr. Jardine's paper will be found as an original article in our issue for January, 1901, at p. 28.

Dr. Jardine also showed a large number of specimens and instruments used in midwifery work.

On the motion of *Dr. W. L. Reid*, a very hearty vote of thanks was accorded him for his interesting address.

II.—FRESH SPECIMENS.

DR. MUNRO KERR showed a dermoid tumour of ovary, which he had removed that morning by abdominal section.

MEETING IV.—19TH DECEMBER, 1900.

The President, DR. ROBERT JARDINE, *in the Chair.*

I.—CASE OF HYDROCEPHALUS WITH SPINA BIFIDA.

BY DR. A. W. RUSSELL.

Dr. A. W. Russell showed a specimen of a fœtus, born at full time, in which there was well-marked hydrocephalus and spina bifida. The mother was 21 years of age, and it was her second child. The first was born sixteen months previously, and everything was normal. During this pregnancy she experienced no inconvenience—beyond a feeling of weight in the later months. Fœtal movements were felt at the onset of labour. Owing to the prolongation of the labour, and the exhaustion resulting from severity and frequency of the pains, the child was delivered by aid of the forceps, the occiput coming down though the brow had presented originally. There was no excess of liquor amnii. There was a large frontal caput succedaneum. The placenta came away at once after the child. There was some hæmorrhage, which ceased after a hot douche. This was evidently due to a bleeding vessel in the lacerated perineum. The puerperium was normal. The specimen was sent to the Hunterian Museum, and Dr. J. H. Teacher has kindly permitted me to read the following detailed report which he had prepared:—

"The fœtus was apparently quite at full time. It was not weighed. Its limbs and body are well nourished. The head is of enormous size, looking more like that of a child of three or four years, and presents the characteristic shape of a hydrocephalus, viz., great bulging out of the cranium, which appears to overhang, and dwarfs the face. The scalp is very œdematous and dark in colour; the bones of the vault could be felt to be separated from one another by considerable tracts of membrane, and the fontanelles are very large. A wide open spina bifida extends from the lower dorsal region into the upper part of the sacral region; the soft membrane between the lines of widely separated arches, was of a deep purplish colour, and flush with the adjacent skin. Cutting through it a considerable cavity was opened into, which contained no cord, but only a few thin nerve roots; it appears to be a meningocele, associated with a condition of amyelia.

There is double talipes varus. After hardening for a day in Kaiserling's fluid the scalp was cut into, letting out a very large amount of bloody serum, and considerably reducing the bulk of the head, especially in the frontal region, where there had been a large caput succedaneum. There had been a great deal of hæmorrhage into the scalp; the blood lay for the most part just over the pericranium.

"The cranium was opened through the sagittal suture, when a great deal of bloody fluid escaped, and the brain was seen inside, having collapsed into the lower part of the cavity on the left side, but still filling most of it on the right side. From subsequent examination it appears that most of this fluid came from the lateral ventricles. The brain was removed a few days later, when it had hardened somewhat, and the ventricles were incised and packed out with cotton-wool to try to preserve the shape and natural relations of the various parts, and the hardening process was continued.

"The fœtus has shrunk a good deal; the head in particular looks a good deal smaller than it did at first; the scalp is left unsewn, so that the interior of the cranium may be examined. After the great increase in the size of the cavity in general, the most striking feature is the very small size of the cerebellar fossa, which is about the normal size.

"The brain is of very brown colour, owing to the engorgement of the pia mater with blood, which lies partly extravasated, partly in the vessels; there has been both congestion and hæmorrhage. It is very much larger than the normal brain of the child at birth, and the enlargement is at once seen to be due almost entirely to enlargement of the cerebrum; the cerebellum is quite small. The lateral ventricles are enormously dilated; the fourth ventricle and the central canal of the cord are also much dilated, but the third ventricle, infundibulum, and *iter a tertio ad quartum* ventriculum are not dilated to any extent. The upper part of the left cerebral hemisphere has been cut away entirely to allow of free dissection about the base of the brain. On the right only a large part of the upper and outer wall has been cut out, and the inner wall drawn up and hardened in something near its natural position, so as to show the height as well as the length and breadth of the brain.

"The great dilation of the lateral ventricles is at once apparent. The cerebral substance is greatly thinned, especially on the median aspect. The walls of the hemispheres are from 2 mm. to at most 15 mm. thick. There are numerous hæmorrhages into their substance, which are quite recent.

The fornix lies in its usual position, but the corpus callosum is raised up, stretched and thinned, and, between them, instead of the small septum lucidum, there is a wide space crossed only by a few threads of tissue, forming a very free communication between the two lateral ventricles. At the free end of the choroid plexus of the left lateral ventricle there is a small solid nodule, about the size of a pea. The ventricles have a very distinct lining membrane, about as thick as a good stout piece of notepaper. The basal ganglia of the cerebrum and the middle brain are spread out slightly, but do not appear to have suffered to any great extent from the distension of the ventricles above them.

"Sections have been made of portions of the choroid plexuses, velum interpositum, cerebrum, and cerebellum, but nothing has yet been made out which throws any light on the cause of the disease.

"The choroid plexuses and velum have quite normal appearance, except that the vessels are gorged with blood. The lining of the ventricles appears to be merely a somewhat denser layer of the same tissue as the white matter of the brain adjacent to it; it is rather more fibrous, and contains rather more cells; the epithelial lining is absent, but whether this is a defect due to the disease or due to the processes of preparation, it is quite impossible to say. In the tissue of the cerebrum the large pyramidal nerve cells are conspicuous by their extreme rarity and irregular shape. In contrast with this it is noteworthy that the corresponding elements in the basal ganglia of the cerebrum and in the cerebellum (which had not suffered any stretching) are numerous and well developed. Clearly there is an abortive condition of the essential cells of the cerebral cortex. The nodule in the choroid plexuses is merely a mass of dilated vessels in a little loose connective tissue—probably insignificant."

II.—NOTES ON A CASE OF RENAL COLIC FOLLOWED BY ABORTION.

By Dr. G. Bell Todd.

Mrs. A. G., aged 26 years, married six years, one child, 4 years. The family history is good; but twelve years ago, or six years before her marriage, she complained of severe attacks of pain in the left lumbar region, and occasionally in the left iliac region, the pain extending down the front of the left thigh. The attacks were intermittent in character, lasting from a few minutes to a few hours, and the intervals of time between the attacks varied from a week to three or four months. Menstruation began at the age of 14 years, and her mother and medical attendant thought that her condition might be due to the establishment of that function. As she continued from time to time suffering from this condition, she consulted Sir Wm. Gairdner, who was of opinion that there was the probability of the attacks of pain being due to the passage of a renal calculus; however, nothing was seen to substantiate that opinion at the time, and as she had relief for a considerable time, and enjoyed good health, she became married at the age of 20 years. I attended her during her first confinement, four years ago, from which she made a good recovery. During her convalescence I made out by examination that she had a "left floating kidney," of which I informed her husband and herself. She afterwards enjoyed good health, and called on me on the 1st December, 1899, to inform me that she thought she was again pregnant. On the 25th of the month I was hurredly called to see her, and found her suffering from severe pain in the left groin, and extending down the thigh. I was also shown the bed chamber, in which I found the calculus No. 1. The pains continued more or less severe all that day, and on the morning of the second day a somewhat smaller calculus, No. 2, was passed, and, afterwards the patient had relief. Knowing that she was presumably pregnant, I was quite prepared to expect that she might abort, and which actually took place on 4th January, 1900. She made a very good recovery. Her present condition is that she has enjoyed the best of health since, and expects to be confined in April next.

She has had no return of her old symptoms.

III.—NOTES OF A CASE WHERE A LARGE CALCULUS WAS REMOVED FROM THE BLADDER THROUGH THE ANTERIOR VAGINAL WALL.

By Dr. G. Bell Todd.

Mrs. M'D., aged 55 years, married thirty years, ten children, nine alive. Has always enjoyed good health till the last four years. She ceased to menstruate at the age of 48 years, and at the age of 50 she consulted her medical attendant with regard to a discharge of blood "from the womb," which came on at irregular intervals, and she became "alarmed" and thought that "something might be wrong." She was informed that there was a "tumour" present; still there were from time to time "bloody discharges" which greatly increased her alarm. I was called to see her on the 24th September, 1899, and on examination found a dense, hard, rounded, movable body in the front of the uterus, and apparently in the bladder. On passing the sound into the bladder a large calculus could be very easily made out. I advised its removal, but, as the patient suffered so little from its presence, I was not permitted to operate till nine months afterwards, namely, on the 18th July, 1900, when I removed the large calculus now shown.

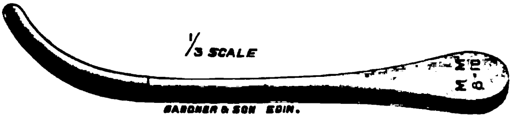
The patient being stout, with a pendulous abdomen, I preferred to operate through the anterior vaginal wall. What greatly assisted me here, by way of accident, was an old lacerated perineum. After removal of the calculus, on examining the mucous coat of the bladder, I was struck with the horny thickened condition of the anterior wall of the bladder; it was thrown into thickened folds, quite horny in appearance, resembling the gizzard of a fowl. I was, therefore, glad I had not attempted to remove the calculus by the suprapubic method, which might have involved the sloughing of the mucous membrane at the seat of the wound.

I stitched up the wound with a continuous silkworm-gut suture. The patient made an excellent recovery, the suture coming away on the seventeenth day. There was no fistulous opening, and the patient has enjoyed perfect health ever since. I took care to investigate the condition of the uterus at the time of the operation, but could make out no morbid condition present. The "bloody discharges" complained of for the last four years have completely disappeared.

IV.—DILATATION OF THE CERVIX UTERI.

By Dr. A. W. Russell.

The fact that so many different forms of dilators are to be found in the catalogues of instrument makers is proof that unanimity has not yet been reached as to the best method of dilatation of the cervix uteri. The two or three-bladed instruments, of which Sims' is the type, and the screw dilators designed by Dr. W. L. Reid, are used by many, but the form in most frequent use is the cylindrical dilator known usually as Hegar's. Hegar's dilators are cylindrical throughout their length, with blunt rounded point, and each size is one millimetre greater in diameter than the preceding number. When the cervix is difficult to dilate, as it usually is in the cases that most need dilatation, it is often found almost impossible to pass the succeeding sizes, and the forceps holding the cervix may tear through its hold more than once in spite of care. To overcome this difficulty, some dilators, such as the patterns used by Galabin, Hawkins Ambler, or Professor Murdoch Cameron, are made slightly conical. These, however, dilate the external os somewhat more than the internal os, and it is the latter that usually most requires dilatation, while they do not give you the exact measure of its dilatation. To obviate these objections, I have designed a modification in the set of dilators which I show you. These are conical from the point for 3½ cc. (= 1⅜ inch) upwards, the rest of the stem being cylindrical. By this means the exact extent of dilatation of the internal os is measured. The various sizes succeed one another as follows:—2 mm. diameter at tip to 4 mm. at cylindrical portion, 3 mm. diameter at tip to 5 mm. at cylindrical portion, and so on, up to any higher number that is desired. By going back 1 mm. from the limit of one size, the point of the next size of dilator gets in nearly 2 cc. before it begins to dilate again, and thus secures more effective dilatation with less risk of injury. These dilators may be slightly curved or straight according to taste, the former, however, being the better pattern, as the axis of the uterine cavity is often considerably curved in cases that require dilatation. They are made of solid polished plated metal, with flattened handle, bearing, stamped on it, the range of dilatation in millimetres, and there is a distinct groove on the stem, 6½ cc. (= 2½ inches) from the tip, to indicate the normal length of the uterine cavity. Not only are these dilators useful for dilatation under an anæsthetic, *e.g.*, before curetting, but the smaller sizes may take the place of the ordinary uterine sounds, and I find that they dilate with less pain than the corresponding size of bulb-pointed sound, and patients suffering from dysmenorrhœa are often relieved for several months by a single dilatation with two or three of the smaller sizes without the necessity for an anæsthetic.



I have to thank Messrs. Gardner & Son, Edinburgh, for the trouble they have taken in making these dilators, for sending a set to show at this meeting, and for the electro block from which the illustration is taken.

V.—CASE OF MISSED ABORTION.

BY DR. J. M. MUNRO KERR.

Mrs. J., aged 36, multipara, was sent to see me by her medical attendant, on account of an irregular hæmorrhagic discharge, which had been going on for some months, after a prolonged period of amenorrhœa.

The history was that in December, 1899, the woman menstruated as usual, but that from that time until May of this year she had complete amenorrhœa. In May, she considered herself pregnant. The abdomen was distended, but she had very little digestive disturbance, and had never felt any fœtal movements. She consulted her doctor in that month, because of this slight hæmorrhagic discharge, which occurred every few days, and which continued until August, when I saw her.

On examining the woman, I found the cervix softened and the uterus about the size of a pregnancy at four months. I could make out no fœtal movements and no heart sounds. I wrote the doctor that I thought, with him, there certainly had been a pregnancy, but that the fœtus was dead. I advised its immediate removal.

As he requested me to do the operation, I packed the cervix and vagina firmly with iodoform gauze on 4th September. On the following day I removed the gauze and found the os fairly dilated, with the ovum projecting slightly through it. With a pair of forceps I removed the ovum intact. There was little liq. amnii, the placenta was very grey and fibrous-looking, and the fœtus, four months old, was much shrivelled up.

It was quite clear, then, in this case that the ovum had been retained for about three and a half to four months. During all that time the woman felt quite well, and had no complaint, except the frequent slight discharge of blood.

VI.—CASE OF MISSED ABORTION: OVUM AND FŒTUS RETAINED AT LEAST FIVE MONTHS, PROBABLY FOR TWELVE MONTHS.

BY DR. G. BALFOUR MARSHALL.

Mrs. B., aged 35, married sixteen years, came to the Royal Infirmary Dispensary on 13th November, 1899, complaining of pain in the back and "womb coming down." She further stated that she had not menstruated since the previous September. The patient has had nine pregnancies—two being early abortions, three premature, and four full-time labours. Her last pregnancy ended at full time in 1895, and since then she has complained of pain (sacrache) and dragging sensation in the back, and of prolapse. This prolapse proved to be cystocele, associated with retroflexio uteri. There is nothing specially noteworthy in her history, so far as the "missed abortion" is concerned, until January, 1899. Till then she had menstruated regularly, her usual menstrual type being twenty-eight day, and lasting about two days with a scanty flow.

From January to June, 1899, she had complete amenorrhœa, when a watery discharge *per vaginam* commenced. The doctor called in informed her "the womb was out of place, and that he had replaced it." This watery discharge was profuse, and continued for two days, when it ceased. Shortly after this, when attending the Skin Hospital, she was put on medical treatment for the amenorrhœa she had complained about. Whether as the result of this or not, she had two apparently normal menstrual periods with scanty flow, the last occurring early in September, 1899. From this date till 13th November, 1890, when I saw her, she had complete amenorrhœa.

From the beginning of 1899, when the amenorrhœa first commenced, she had never felt very well, and was unfitted for hard work. Her appetite was poor, and she had occasionally nausea, especially in the mornings. The bowels were constipated, and defæcation frequently painful, with a feeling as if something were pressing on the rectum. This was, no doubt, due to the retroflexion, as, when I examined her on 15th November, 1899, I found a relaxed vaginal outlet with old tear of perineum, a slight cystocele, and a retroflexio uteri of the third degree, the fundus uteri lying in the pouch of Douglas, the cervix pointing downwards and slightly forwards. I had no difficulty in replacing the uterus, and noticed it was enlarged, antero-posteriorly thickened and soft. The cervix was, however, hard. I informed the patient I thought she was about two and a half or three months pregnant, and after placing a ring pessary in the vagina to keep the uterus *in situ*, told her to return within two months if all went well. She returned on 9th January, 1900, but as there was no change in the size of the uterus, I doubted my previous diagnosis, and told her to return another month.

During January she noticed her abdomen swollen, and when she came to the Dispensary on 13th February expressed the opinion she was pregnant, as she felt as if "something were there." This distension was, however, due to flatulence and dyspepsia, and disappeared under treatment. The uterus was still unaltered, and I now came to the conclusion it was most probably a case of "missed abortion" or "retained ovum," taking into consideration the history of amenorrhœa, the size and softness of the uterus, and its antero-posterior thickening. The patient also suffered from attacks of paroxysmal pain at intervals, probably due to efforts of the uterus to expel its contents. It is quite possible that the rigidity of the cervix, found at later operation, may have been a factor in resisting expulsion of the uterine contents.

I kept the patient under observation till April—the uterus always remaining about two and a half to three months pregnant as regards its size.

She was then admitted to Ward 30 of the Royal Infirmary, when, on 27th April, 1900, Dr. Kelly removed the ovum and fœtus, which I now show you, and I am indebted to Dr. Kelly for giving me the specimen. Dr. Kelly found the cervix so rigid that, in dilating it, he had to make incisions into its substance. As already stated, this may have been a factor in causing retention.

Examination of the ovum and fœtus shows little alteration macroscopically, and there has been no hæmorrhage to produce anything of the nature of a mole. The amnion and chorion seem thicker than normal, and there is a velamentous insertion of the umbilical cord, the point of insertion being about an inch and a half from the edge of the placenta. The fœtus is that of a three months' old pregnancy, and broke into pieces in the process of removal.

Remarks.—The first question that arises in reference to this case is—When did the patient become pregnant, and how long was the ovum retained *in utero?* I think it not at all unlikely that pregnancy began early in 1899, *i.e.*, in January, when her last menstrual period occurred, as up till this time menstruation had always been regular. The retroflexion of the uterus might account for the death of the fœtus, say, in April, 1899. The uterus was said to have been replaced in June following, but in November I found a retroflexion of the third degree, and no supporting pessary.

In such an event she retained the ovum for twelve months, till it was removed. This is not inconsistent with the fact that she had a watery discharge for two days in June, and thereafter what seemed to be two scanty and apparently normal menses. This view is further supported by the fact that she had felt more or less unwell all year. We know that a foreign body in the shape of a dead ovum can be retained many months *in utero,* without being thrown off, and as long as no germs gain entrance to the uterus to make its contents septic, no harm results to the patient. If organisms of decomposition get into the uterus, the ovum will putrefy and break up, and should maceration occur there is usually a dirty-brown discharge.

This case, with its prolonged amenorrhœa, is in marked contrast to that of Dr. Munro Kerr, where, after a period of five months' amenorrhœa, there was irregular hæmorrhage for four months until the uterus was evacuated. In such a case of prolonged retention of the ovum as this I bring before you, it is probable that the uterine contents are protected from the entrance of septic germs by the aseptic mucous plug lying in the cervical canal; and it has further been shown that the healthy vaginal secretion has a bactericidal power destructive to streptococci and staphylococci which may enter the vagini. On the other hand, it is remarkable how long the secundines of an incomplete abortion may be retained with a dilated cervix, and yet without the uterine contents becoming septic. I have seen a number of such cases; and, this autumn, a patient came to the Royal Infirmary Dispensary with a history of abortion and escape of a three months' fœtus some four months previously, and a subsequent slight daily loss of blood. The cervix was patulous enough to easily admit the forefinger into the cavum uteri and allow of the removal of a walnut-sized portion of ovum, and yet there was no sepsis. The patient was, however, very anæmic from continuous loss of blood.

In conclusion, this is, then, a case of prolonged amenorrhœa, with the retention of the ovum for a period of probably twelve months, or undoubtedly for at least five months, until removed by operation.

VII.—RETENTION *IN UTERO* OF A DEAD FŒTUS FOR FOUR MONTHS.

By Dr. Robert Jardine.

Mrs. A., a multipara, æt. 34, had always been attended by me at her confinements. When she was about three months pregnant, as I happened to be attending a child, she said she would probably need my services again in the following July. When she was about six months gone I was sent for, as a small amount of bleeding had occurred. I found it was very slight. It was difficult to define the exact size of the uterus as her abdominal wall was very thick, but I failed to hear any fœtal heart. She said she had quickened at the usual time, but had only felt movements for a short time. I told her I thought the fœtus was dead, but I could not be absolutely sure.

A few days' rest in bed stopped the bleeding. I asked her to see me in a month's time, when I hoped to be able to give a definite opinion about the fœtus. When she came to me a month later, she said she didn't believe she was pregnant at all, as her abdomen had become smaller and her breasts quite flabby. On examination, I found the uterus about the size of a five months' pregnancy. No fœtal heart and no movements were apparent. I gave a definite opinion that she was pregnant, but that the fœtus was dead. She said her health had never been better, and as she was somewhat startled at my opinion, and wanted to know what was to be done, I advised her to have nothing done in the meantime, as long as her health was good, but to wait until full time, when in all probability labour would come on. I also said that if she went beyond full time I would then consider the advisability of clearing out the uterus.

Labour set in exactly at full time, and a small macerated fœtus was expelled. The placenta was adherent, and it was necessary to give her chloroform to clear it out. It was in a fibroid condition. The fœtus was a fifth month one. The patient made a normal recovery.

In one of my West-end Branch reports, I gave a case which I delivered at full time of a macerated fifth month fœtus. The present case is the first one I have ever seen in which I have been able to make a definite diagnosis before the expulsion.

I have seen at least half a dozen cases of full time twin labours, with one macerated fœtus, about the fifth or sixth month of development, and the other quite healthy. In three of the cases I attended the patients for threatened miscarriages about the time of the death of the fœtus. In one of them the death of the fœtus was due to direct violence. The loving father killed his unborn babe by kicking its mother in the abdomen. It was clearly a case of manslaughter, or some other kind of slaughter. Beyond punishing a man for assault, I don't suppose the law could do anything more in such a case, as an unviable fœtus *in utero* could hardly be recognised as having rights of its own.

In one of the other cases, my having attended the woman at the time of the death of the fœtus enabled me to put a stop to a very apparent attempt to blackmail a brother practitioner. As a medical officer to a public body, he had occasion to call at her house to see one of her children. A few days afterwards she gave birth to a live and a dead fœtus. Fortunately, the nurse in attendance asked me to see them, as the dead one was only half developed. A few days later the nurse reported to me that the people had brought an action against a doctor who had called at the house, and, as the door was not opened, at once had kicked it in. The door-knob was said to have struck the woman on the abdomen and killed the fœtus. Several of the neighbours were prepared to swear to this.

The doctor refused to be blackmailed, and they had gone to the court. I at once volunteered to give evidence on his behalf. As soon as I appeared on the scene, they withdrew the action, and nothing more was heard of it.

How long a dead fœtus, or the products of an early conception, may be retained *in utero*, it is difficult to decide. I have published a case of missed labour, in which the dead fœtus was carried nearly a month beyond full time. In some of the cases reported, in which the time extended to years, there is no doubt that the fœtus was not in a normal uterus, but in a rudimentary horn, or extra-uterine entirely.

Should I have cleared the uterus out, when I was perfectly sure of my diagnosis? So long as her health was good, I think I was perfectly justified in waiting, at least, to full time. If she had begun to suffer in any way, clearing out of the uterus would have been called for. As it turned out, the result could not have been better. In such a case, I think it is well to leave Nature to deal with the condition, so long as there is no bad effect on the woman's constitution, but to interfere at the very first indication of her health suffering. It is surprising how little a woman's health suffers from the presence of a macerated fœtus *in utero*. We have many such cases in the Maternity Hospital, and hardly any of them have even a rise of temperature. Their systems seem to have become immune to the poison. On the death of the fœtus, the channels of absorption are probably sealed up, but they must be opened up again during delivery, and yet how seldom do we have sepsis occurring in these cases. In our hospital cases, it is true, we take precautions by giving a very copious intra-uterine douche at the time of delivery, but that of itself would not prevent poisoning if the system were not in some way protected.

In the discussion that followed on missed abortion,

Dr. Kelly remarked how surprising it was that in these cases of "missed abortion" the dead ovum might be retained so long without undergoing decomposition. He referred also to two features of Dr. Balfour Marshall's case—the repeated attacks of pain indicating attempts on the part of the uterus to expel its contents, and the great difficulty experienced in dilating the cervix. The latter, he thought, might, to some degree, account for the retention of the ovum.

Dr. Lindsay said that he thought some ova retained were really cases where development was arrested owing to changes in the placenta, most commonly of a syphilitic nature.

The President, Dr. Balfour Marshall, and Dr. Munro Kerr replied.

GLASGOW EASTERN MEDICAL SOCIETY.

SESSION 1900-1901.

MEETING III.—21ST NOVEMBER, 1900.

The President, DR. DAVID YOUNG, *in the Chair.*

DEMONSTRATION OF MEDICAL CASES IN GLASGOW ROYAL INFIRMARY.

BY DR. MIDDLETON.

An account of this demonstration will appear in a future issue of this *Journal.*

MEETING IV.—5TH DECEMBER, 1900.

The President, DR. DAVID YOUNG, *in the Chair.*

THE DIAGNOSIS OF SMALL-POX.

BY DR. JOHN KNIGHT.

In his address, Dr. Knight began by referring to the differentiation of small-pox from the diseases with which it is most frequently confused, these being, in his experience, chicken-pox, German measles, measles, syphilis, and lichen. With regard to chicken-pox, which is the disease in which the differential diagnosis is most frequently required, he pointed out that, speaking generally, chicken-pox is a disease of young children at an age when the protective influence of vaccination is greatest, but it is also not infrequently met with in adolescents. The eruption of chicken-pox is generally far more marked on the trunk than on the face, it comes out in crops and shows numerous lesions in different stages at the same time. In small-pox the lesions are more of a similar type, and are more uniform in size, the eruption being most abundant on the face, less on the limbs, and least of all on the trunk, whereas in chicken-pox the converse is the case. In small-pox there is a graduation of the eruption from above downwards, the lesions on the face being the most advanced, those on the arms, wrists, and hands may be of nearly the same degree of advancement, but the eruption on the legs is behind time. This graduation is one of the most valuable guides in the diagnosis of modified small-pox. In chicken-pox the eruption is much more profuse on the trunk than elsewhere, though in a scanty chicken-pox eruption it may be difficult to diagnose, because the skin lesions may be slight.

In chicken-pox the constitutional disturbance is slight, but in small-pox the invasion symptoms are severe, and bear no relation to the amount of the eruption. In chicken-pox, the vesicle is oblong, with distinctly convex surface, and is filled with clear fluid; in small-pox, the vesicle is flat-topped, and generally round, and filled with fluid of a greyish-yellow colour. The chicken-pox vesicle is described as being unilocular, whereas that of small-pox is multilocular, but this test is seldom resorted to by Dr. Knight. In doubtful cases of small-pox, the importance of examining other members of a family for signs of the disease was pointed out, the occurrence of a rash, more typical in character in other persons, which may have been overlooked, being frequently of great aid in arriving at a diagnosis.

Reference was made to the occurrence of a prodromal eruption in some cases of small-pox. This rash is sometimes measly, and resembles measles, but there is an absence of catarrhal symptoms. It has also been mistaken for German measles. A more common form is the scarlatiniform eruption; the symptoms are like those of scarlet fever, except for the absence of sore throat. A most interesting eruption is the petechial, though it is not common. It is generally bounded by definite lines, frequently occurring in a triangular area, bounded above by a horizontal line about the level of the umbilicus, and below by an oblique line on the upper part of each thigh. These prodromal eruptions are most frequently seen in cases of modified small-pox. Dr. Knight gave details of a case he had seen, where a profuse petechial prodromal eruption appeared immediately after the invasion symptoms, without a single sign of the true eruption of small-pox. The patient died in two days. In another case, a man who had continued fever for six days, a petechial, or at least measly eruption, appeared on the trunk and limbs. A diagnosis of typhus was made, but next day a variolous eruption appeared on the forehead, and a few days later another member of the family showed signs of small-pox. In the same house a child was found suffering from what had been thought to be varicella, but was really small-pox. Here, as in many other cases, the true nature of the disease was recognised only when the adults were attacked, the eruption in the child being, as is frequently seen in these cases, comparatively slight. As regards prognosis, Dr. Knight gave instances to show that the disease cannot always be considered mild when the eruption is slight. In a case which is going to be hæmorrhagic, the eruption is frequently sparse, poorly marked, and irregular in distribution; many of these cases prove rapidly fatal.

Lichen and syphilis were mentioned as being sometimes mistaken for variola; but in the former affection the absence of symptoms of invasion and there being no evolution of the rash; and in the latter the history and the polymorphic appearance of the eruption, are generally sufficient to establish the diagnosis.

After remarks by several members, *Dr. Knight*, in reply to Dr. Findlay, said that the expression "shotty," as applied to the feeling of the papular rash of small-pox, was, to his mind, misleading. The eruption is resistant, but has a peculiar velvety feeling, and is never stone-hard. The eruption in the fauces, he stated (in reply to Dr. Black), was not of value in the differentiation of small-pox and chicken-pox.

MEETING V.—19TH DECEMBER, 1900.

The President, DR. DAVID YOUNG, *in the Chair.*

THE STORY OF A RESURRECTIONIST.

BY DR. JAS. R. BUCHANAN.

Dr. Buchanan's paper will be found as an original article in our issue for February, 1901, at p. 81.

On the motion of *Dr. Wm. Patrick,* seconded by *Dr. Findlay*, Dr. Buchanan was accorded a hearty vote of thanks for his paper.

THE FORFARSHIRE MEDICAL ASSOCIATION.

DISCUSSION ON ALCOHOL IN THE TREATMENT OF DISEASE.

AN ordinary meeting of the above Association was held in the University College, Dundee, on Thursday, 13th December, 1900—Dr. C. S. Young, vice-president, in the chair.

DR. MACKIE WHYTE read a paper on "Recent Researches on Alcohol and their Effect on Treatment." He adhered to the views of Schmiedeberg in regarding alcohol not as a stimulant of functional activity, but as a paralysing agent. This action on the brain and on muscle was gone over at some length, reference being made to the work of Kraepelin Destrée, and others. There was no proof of a stimulating effect on the heart. Binz's experiments on the effect of alcohol on respiration were discussed. The effect of alcohol on the tissues was shown in various ways to be deleterious, the proof that it is a protoplasmic poison being considered to be fairly complete. While alcohol taken in moderate amount is to a great extent oxidised, its food value must be largely discounted by its other effects. Our knowledge of metabolism is very far from being complete; what we want to know in regard to alcohol is what it does before it is transformed into water and carbonic acid. The bearing of these views on the treatment of various classes of disease was next gone into, and while it was true that alcohol was very much less frequently given than formerly, a still greater restriction seemed to be indicated. Diseases of the nervous system, of the digestive tract and liver, and of the kidneys, offered little scope for the use of alcohol. Where not positively deleterious, its sedative or narcotic effect was too often risky. The popular use of gin as a diuretic should be protested against. The action of alcohol on acute febrile and infectious disorders was gone into at some length, pneumonia being taken as a convenient type. Aufrecht (of Magdeburg), the Bonn clinic, Kassowitz (of Vienna), and Barr (of Liverpool) were quoted as disapproving of the giving of alcohol unless in some exceptional conditions, and in the Dundee Royal Infirmary it was found that even chronic drinkers got on more satisfactorily without alcohol than with it.

The *Chairman*, in the discussion which followed, pointed out the interest such a paper had, and referred to the effect of alcohol on the circulation, and stated that it was his practice to use alcohol chiefly in tiding over a crisis.

Dr. J. W. Miller said that he agreed in almost everything with the paper. In his own practice he had been steadily diminishing the quantity of alcohol prescribed for patients, especially in acute cases, such as pneumonia and fevers. As an indication of the practice thirty years ago, he quoted from a record of typhus cases during the term of his physicianship in the Dundee Infirmary in 1868. In the total of 884 cases, 51 reached a maximum of 12 oz. of alcohol in twenty-four hours, and in 3, 18 oz. were given. These were cases of great severity which one might have expected to prove fatal. Twelve of the 51 recovered. In pneumonia he never used alcohol largely, and was of opinion that it should be used only in the strictest moderation. Dr. Whyte had referred to the danger of discontinuing alcohol suddenly in those cases where its bad effects are beginning to show themselves, but in a twenty-eight years' experience of prison practice, in which alcohol is at once stopped on admission, he had not found such a large number of cases of delirium tremens as one would expect if the practice referred to were dangerous. The popular use of alcohol was in every way to be condemned. We all know how common is the pernicious practice of giving alcohol to young females in dysmenorrhœa.

Dr. Sinclair in his own practice adopted pretty much the same plan as Dr. Miller, the effect of alcohol being very carefully watched, the doses small and carefully measured, the effect carefully watched on the pulse and tongue, the earliest hint of narcotic effects being especially carefully watched. In pneumonia the balance of evidence was entirely in favour of the withholding of alcohol until the crisis, and, in the majority of cases, even then many cases might do better without than with it. As regards the effect upon healthy individuals, the practice of most was to take rather small than large doses, and reserve it until the end of the day, when its tranquillising effects after a hard day's work were undoubtedly beneficial. He was perfectly convinced of the absolute harmlessness of omitting alcohol altogether in the case of the majority of healthy individuals. In regard to the phthisical cases he entirely agreed with Dr. White; phthisical patients who had been intemperate, generally go down-hill very rapidly, but with all deference he thought there was another side to the question. It was, he said, very well known that if a patient with a tendency to phthisis developed the gouty habit, it is very hostile to tuberculosis. In the case of children with a tendency to waste and to take catarrhs readily, a little alcohol, disguised with bitter infusion, so that it should be disagreeable, is of distinct advantage in promoting digestion and assimilation. Obstinate neuralgias, common in the aged, are treated with advantage, not only with quinine, but with a modicum of alcohol along with it. He also thought that ether from the laboratory was not the same as volatile ethers in wines after fermentation and in bottle, and, further, he thought there were two periods of life when its use was dangerous for medical men to prescribe, and that there was a steady trend of opinion in this direction. The first was the change of life, when women were inclined to give way to intemperance, and the second in young persons of both sexes, when character was in the formative stage, between the ages of puberty and 20 or 21.

Professor Marshall agreed that alcohol was a protoplasmic poison, and consequently practically toxic to all forms of tissue activity. It is not a stimulant to the brain, and there was no scientific evidence to show that the heart was stimulated by alcohol; if it did have any effect, it was an indirect one through the stomach. He did not think Dr. Whyte had laid sufficient stress upon its local effects upon the alimentary mucous membrane. He thought that alcohol had a beneficent effect upon the digestion, and did assist the assimilation of food. Alcohol is also a food sparer. It can replace, to a certain extent, some of the carbohydrate of the food. It is absorbed readily, and easily broken up in the system, but its power in this direction is limited. In regard to the therapeutic use of alcohol, he felt strongly that far too much was used in practice, but as a hypnotic he did regard it as one of the least harmful, and in certain gastric conditions he believed it to be of value. He laid particular stress on individual peculiarities towards the effect of alcohol. On the whole, he thought it ought to be regarded as a drug, and not as a food or poison, except in a limited sense.

Professor Stalker considered that there was no shadow of proof that alcohol was a cardiac stimulant. He would be inclined, under any circumstances, to give a pneumonia patient the chance of recovering without alcohol. As a hypnotic he would use it in certain circumstances, and considered it the safest with children. He did think, however, that it would be a very hard thing to give up the dose of whisky in cases of advanced phthisis and cancer.

Dr. Pirie spoke of the action of moderate doses of alcohol on the body as being described in most contradictory terms by physiologists. He considered that until physiology could speak with a more certain voice, treatment of disease by alcohol must rest on a very insecure foundation, and, indeed, was dependent mostly upon clinical observation, which was steadily limiting the amount prescribed in many diseases, and abolishing it altogether in some.

Drs. Rogers, M'Vicar, and others having spoken, *Dr. Whyte* then replied. In his reply, he stated that the extreme physiological dose was put down as 2½ oz. of alcohol, and that there was now a tendency to diminish and bring this down to about 1 oz. as the amount which a man can safely from day to day indulge in without producing for many years those degenerations which are so apt to come as one gets on in years, whether teetotal or not. He should not expect good from larger doses than those diluted and given over the twenty-four hours. He thought that the fact of alcohol being a food sparer was of very little importance. What we wanted to know was what were the other effects of alcohol; if it is burned up in the body, is it or is it not, as Schäfer says, a deleterious drug. He held it was. Professor Marshall said that he assumed it was a protoplasmic poison that seemed to him to do away with its food value.

REVIEWS.

A Manual of Syphilis and the Venereal Diseases. By JAMES NEVIN HYDE, A.M., M.D., and FRANK HUGH MONTGOMERY, M.D. Second Edition. London: W. B. Saunders & Co. 1900.

THIS manual has been prepared with the intent of meeting the special needs of the student and of the practitioner, rather than of the expert. We do not, therefore, look for anything specially original in the text. A sufficient and clear account of the subjects dealt with is given. The special feature of the book, however, is the large series of excellent plates, most of which are already familiar to us in Mracek's *Atlas*, with which it is illustrated. These will do much to educate the student and assist the practitioner. We recommend the volume.

A Text-Book of Practical Therapeutics. By HOBART AMORY HARE, M.D., B.Sc. Eighth Edition. London: Henry Kimpton. 1900.

TEN years have now elapsed since the first edition of this work was published. The fact that we have now in our hands the eighth edition is sufficient evidence of the usefulness of the book to the general practitioner.

The arrangement of the subject matter remains the same as when it was first published; but with each new edition much has been rewritten, and much new matter introduced.

The author has had all along the idea prominently before his mind to bring together into a rational system of therapeutics the knowledge of the pharmacologist and the experience of the clinical observer. Throughout the work we find the proper relationship of the two departments fully recognised, and the desire of the author "to weave science and practice into so close a network that the foundations of experience may be cemented by the mortar of exact knowledge" is in a large measure realised.

The matter dealt with is considered in four sections. The first part deals with questions relating to general therapeutics. In the second, we have the drugs discussed individually in reference to their pharmacological and their therapeutic action; and in the third, remedial measures other than drugs. The fourth part has been allotted to the treatment of the more common forms of disease, "not with the object of providing a rigid system of treating disease, but rather for the purpose of bringing together the best remedies, and of showing how and why they are given."

The book is rendered more generally useful by the introduction of both the United States and British *Pharmacopœia* preparations. The indices, both of diseases and remedies, are complete and well arranged.

Selected Essays and Monographs (From Foreign Sources). By Various Authors, London: The New Sydenham Society. 1900.

A LARGE proportion, or in other words, five out of fourteen, of these essays are on subjects connected with syphilis; and, in at least two of the remainder, the question of syphilis bulks largely. The papers include (1) a contribution to the etiology of tertiary syphilis, with special reference to the influence of mercury, by Marschalko; (2) statistics of 1,501 cases of tertiary syphilis, by Ehlers; (3 and 4) two papers on the etiology and treatment of tabes, by Erb; (5) icterus syphiliticus precox, by Lasch; (6) syphilis and general paralysis in Iceland, by Ehlers; (7) recurring syphilitic roseolas, by Fournier; (8) pemphigus malignus, by Neisser; (9) dermatoses produced by drugs, by Jadassohn; (10) melanosis and keratosis arsenicalis, by Nielsen; (11) epithelioma as a sequel of psoriasis and the probability of its arsenical origin, by Hartzell; (12) lichen scrofulosorum in a negro, by Gilchrist; (13 and 14) the nature of lupus erythematosus and multiple benign sarkoid of the skin, by Boeck. The great reputation of some of the authorities we have named demands for their writings the most careful attention, though we cannot say that all the papers they contribute to this volume are alike valuable in furnishing us with new light on their respective subjects. Thus, the principal point to be noted in Professor Erb's first essay is the emphasis he places upon syphilis as a factor in the causation of tabes. In his second essay, he urges the use of antisyphilitic treatment in cases of tabes following syphilis. He further recommends, among drugs, strychnine rather than arsenic. Boeck regards lupus erythematosus as always an eruptive inflammatory disease, of which the localisations are determined by the vasomotor centres of the skin. He says it is never merely a local process. Other parts of the volume deserve careful reading, but they need not be further alluded to here.

First Aid to the Injured, with Special Reference to Accidents Occurring in the Mountains. By DR. OSCAR BERNHARD. Translated from the German by MICHAEL G. FOSTER, M.A., M.D. London: T. Fisher Unwin. 1900.

THIS little volume is meant to be a handbook for guides, climbers, and travellers, and is the outcome of lectures delivered to guides and others interested in ambulance work. The lectures were illustrated by sheets of diagrams, and these have been reproduced here with explanatory and additional text.

There is as an introduction, a short account of human anatomy and physiology. This is followed by the subjects of wounds, burns, frostbite, injuries to bones and joints, apparent death, fainting, &c., mountain sickness, and transport.

The text is illustrated by fifty-five plates, illustrating practical methods of treating the above conditions. The work contains more than one would expect from its unassuming external appearance, and we can recommend it, not only to every traveller, whether Alpine or not, but also to those whose province it is to stay at home.

The Pathology and Surgical Treatment of Tumours. By N. SENN, M.D. Second Edition, Revised. Philadelphia: W. B. Saunders. 1900.

IN this edition, we are told in the preface that recent work on malignant tumours is noticed, but on perusing the section on these tumours we find no mention of Lack's experiments. We observe also that the question of oöphorectomy in inoperable carcinoma of the breast is not touched upon. The author makes a good working hypothesis of his theory as to the origin of tumours, viz., "the product of tissue-proliferation of embryonic cells of congenital or post-natal origin, produced independently of microbic causes."

We are disappointed in the text. A large proportion of it is mere compilation, arranged often in a very disconnected fashion; and, when unearthed, the author's views on a particular subject are sometimes found to be compressed into a few lines. We must admit, however, that he has made judicious use of italics; without these the reader would have some difficulty in summing up any particular section which he might happen to peruse. We give unqualified praise to the illustrations; these are mostly histological, and many of them apparently from micro-photographs.

The volume is a good work of reference, without, however, giving references. Its value would be much enhanced were it furnished with a better index.

Transactions of the Edinburgh Obstetrical Society. Vol. XXV. Edinburgh: Oliver & Boyd. 1900.

THIS volume maintains the high standard of its predecessors. Of many excellent contributions, the following may be mentioned:—The Chronology of Ante-Natal Life, by J. W. Ballantyne; Five Cases of Eclampsia, Treated by Saline Transfusion, by R. Jardine; and Kraurosis Vulvæ, by J. A. C. Kynoch. Professor A. R. Simpson describes an improved pattern of his well-known basilyst. Two other papers may be singled out for special notice. These are:—

1. "On the Cause of the Differentiation of Connective Tissue in the Human Fœtus, with Special Reference to the Essential Nature of the Hydatid Mole," by Berry Hart. The author advances the theory that the hydatid mole may be regarded as an acute myxœdema of the chorion. He basis this view on the argument that the thyroid in all probability secretes a substance or substances conveyed to the connective tissues by the blood and lymph streams, and necessary for their nutrition; that if this secretion be absent or deficient in post-natal life, myxœdema is the result, that is, the connective tissues take on an embryonic character; and, finally, that the full development of the fœtal connective tissues depends on their supply of blood-vessels and lymphatics, and, therefore, presumably, on their supply of thyroidal secretion. In the case of the hydatid mole, he thinks the essential cause of the condition lies in the non-development of the embryo, or in the absence of its thyroid. The paper is suggestive and well worthy of careful perusal and study.

2. "On the Set of the Pelvis in the Body (Variations in the Inclination of the Brim apart from Posture), and its Obstetrical

Significance," by Freeland Barbour. In this paper the author proves (*a*) that the angle of divergence of the axis of the brim from the long axis of the abdomen expresses the effort which the uterus must put forth to throw itself into line with the pelvis, if its contents are to be expressed with a minimum loss of force; (*b*) that this angle equals an angle which the *conjugata vera* makes with a perpendicular falling from the upper edge of the symphysis pubis on the long axis of the abdomen; and (*c*) that the inclination of the brim to the horizon varies normally from 40° to 60°, the mean being 55°. Writers of text-books on obstetrics will do well to embody in future editions of their works the results of the observations expressed in this thoroughly scientific and practical contribution.

Kurzgefasstes Lehrbuch der Kinderheilkunde, für Aerzte und Studirende, von DR. CARL SEITZ. (*Short Text-Book of the Diseases of Children, for Practitioners and Sudents*). Second Edition. Enlarged and completely remodelled. Berlin: S. Karger. 1901.

WE are told in the preface to this edition that the chapters on diphtheria, tuberculosis, cerebro-spinal meningitis, diseases of the nose and throat, &c., &c., have been considerably enlarged, whilst among other subjects newly introduced are chondrodystrophy, osteomalacia, and congenital stenosis of the pylorus.

The book, which extends to 500 pp., consists of two parts—general and special. The first deals with the anatomico-physiological peculiarities, the feeding and the examination of children, and the general treatment of their ailments. The second consists of chapters on the affections of the newly-born, the acute and chronic infectious disorders, general diseases, and diseases of the various systems. From the physician's point of view, the matter is well worked up, but, as is perhaps only natural in a volume of the kind, surgical technique is omitted, although the principles of surgical treatment are clearly laid down. The judicious use of small type in some of the subsections permits the inclusion of a large amount of matter without rendering the volume too bulky.

The table of contents, which is well arranged, gives a scheme of the various subjects treated of, and there is, in addition, a very good index.

To those who read German this *Lehrbuch* will prove of the greatest value.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

SURGERY.

By G. H. EDINGTON, M.D.

Surgical Errors in Skiagraphy.—Under this heading Dr. Carl Beck draws attention to facts already recognised by the majority of surgeons who have experience in the use of the Röntgen rays, viz., that normal plates should be at hand for consultation, that the two corresponding limbs should be compared, that rachitic changes may simulate injury of bone, and that pictures should be taken in at least two planes.

He quotes a case by Williams, in which the os intermedium cruris had been demonstrated by the rays, and had been thought to be a fragment of astragalus; examination of the sound limb cleared up the diagnosis. He also mentions a case of his own in which an oblique fracture of the tibia, in a boy, aged 4 years, was clearly demonstrated in a lateral picture after it had been missed in an antero-posterior view of the parts.

He also states that, according to the *x*-rays, epiphyses at the knee unite at sixteenth year, and not seventeenth to twenty-fourth as is stated in the anatomy books.—(*Journal of American Medical Association*, 5th January, 1901.)

Changes in the Spinal Cord long after Amputation of a Leg.—At the Société de Neurologie séance on 10th January, 1901, M. Swiltaski reports the result of his examination of the spinal cord in five cases from the service of M. Marie. The examinations confirmed the already recognised atrophy of the cord on the same side as the amputation, the anterior corn and lateral bundle (*faisceau*) being affected.

In addition, Swiltaski finds, as already stated by Marie, atrophy of the posterior columns—not simple, but accompanied by sclerosis. This change is better seen in the cervico-dorsal than in the dorsal region; and is probably due to the fact that the roots of the nerves are disseminated at their point of entry in the cord, and only concentrate higher up (in the column of Goll), thus causing the degeneration to appear more marked in the upper region of the cord.—(*Gaz. des Hôpitaux*, 12th January, 1901.)

Thrombosis of Left Lower Limb, complicating Appendicitis.—Villard and Vignard report four cases of the above.

In the first case, non-suppurative, phlebitis appeared ten days after the appendicitis. It was accompanied by fever, and in twenty-four hours by pulmonary embolism. Recovery took place in four months.

In the second case, suppurative, the patient presented a typhoid appearance when the phlebitis came on. This latter, occurring in left limb, confused the diagnosis. Laparotomy showed appendical abscess. Died ultimately from phthisis pulmonalis.

In the third case, suppurative, recovery took place in six months; but in the fourth case, non-suppurative, the phlebitis became bilateral, and the patient succumbed.

It is well known that pleural, hepatic, and muscular affections may complicate appendicitis; psoitis from direct propagation, pleurisy by the lymphatics of the diaphragm, and hepatic infection through the portal vein.

In the cases above reported, phlebitis by contiguity is out of the question, and the authors explain the condition as a manifestation of general infection of the organism, arising from the appendicular focus (*foyer*).—(*Revue de Chirurgie*, January, 1901.)

Myopathic Articular Lesion. By M. Henry de Gaulėjac.—After premising the physiological fact that the periarticular musculature affords a support to the joints, if not so strong as, at least more efficacious than that of the ligaments, the author proceeds to inquire if atrophy of the musculature surrounding a large joint will allow a disjoining of the osseous surfaces without preliminary subacute or chronic inflammation.

Experiments were carried out on the hip-joint of the rabbit. In animals killed shortly after myotomy, a widening of the acetabulum was found. In some cases this was of such extent as to double the normal diameters. The part affected was that covered by the cartilage of incrustation; the non-articular portion was diminished in area and depth. The capsule was hypertrophied, the fibrous hypergenesis being proportional to the bony changes.

In animals killed at a later date the muscles cut had become vestigial, and their antagonists contracted and somewhat atrophied. The thickened capsule still retained the head of the femur in place. In addition to the above-mentioned widening, the margins of the acetabulum were thickened and deformed by condensing osteitis. The head of the femur was flattened and supported on an atrophied neck, overhung by a trochanter with irregular finely serrated borders.

In a third type the thickening of the acetabular margin was so considerable as to increase the weight of the bone of the affected side by 80 mg. Muscular contraction had deformed the hip-bone so that the ischium was everted to a right angle with long axis of the bone.

In the last stage of the lesion there was no longer a trace of articular cavity, its place being taken by a bony mass. The flattened head of the femur played on this plateau, sustained by a capsule, increased tenfold in volume and in extent.

In a second series of animals complete (*flasque*) paralysis was produced in the musculature by resection of nerves. The limb became in the course of some months absolutely flabby, and the articular surfaces were easily felt under the skin. They could be separated at will according to the amount of slackening of the ligaments. No skeletal changes were, however, found.

The author distinguishes total paralysis from partial paralysis with muscular contraction by the different results on the articular structures. The unaffected muscles by their contraction displace head of femur; this reacts (*a*) on ligaments, producing hypertrophy, and (*b*) on bony attachment of ligaments, producing bony thickening.

Since the introduction of *x*-rays, children, the subject of infantile paralysis, have been found to present similar joint changes, previously not recognised clinically.

This "paralytic subluxation" must, from the anatomico-pathological point of view, be looked on as a separate entity, and distinct from the common "pathological" and "congenital" dislocations.—(*Gaz. des Hôpitaux*, 31st January, 190!.)

Deep Inguinal Adenitis, simulating Strangulated Femoral Hernia. By MM. Le Filliatre and Forget.—A short paper on the above appears in the *Gazette des Hôpitaux* for 3rd January, 1901. The authors deal first with the anatomy of the crural canal. The upper orifice of the canal is closed by the septum crurale, which is derived from the peritoneal fascia propria; between the septum and the peritoneum are sum plugs of fat and lamellated tissue of the fascia propria. Below, the septum is in contact with the contents of the canal, viz., lymphatics and glands. The glands are sometimes entangled in the meshes of the septum crurale, and so an adenitis may set up a peritonitis, as well as the symptoms of pseudo-strangulation—the latter from the inelasticity of the margins of the ring. The following is a *résumé* of a case observed by them :—

Mme. X, aged 60. Following a confinement at the age of 38, a phlebitis of the right lower limb kept her in bed for eighteen months. Excepting frequent headaches and obstinate constipation, she enjoyed good health. Since the age of 20 there has been constantly present in the right groin a swelling, which was painful from time to time, but never so much so as to lay her up.

On 10th October last, after making a violent exertion, she experienced an acute pain in the groin. Some hours later vomiting came on, accompanied on 13th by retention of both fæces and flatus. The next day her expression was anxious, the belly was slightly distended and painful. There was great pain in the inguinal swelling ; the right thigh was flexed on the abdomen, and attempts to extend it caused increase of pain in the groin. The symptoms persisted on next and following days. The vomiting was more frequent, but remained bilious. The symptoms were not so intense as in acute strangulation, and as the patient refused operation, application of ice was made to the swelling.

Attempts at reduction were fruitless. The swelling felt lobulated, rolled under the finger, was partly reducible, but when not held up quickly resumed its original position, apparently see-sawing on Gimbernat's ligament.

There being no amelioration in her condition, the patient submitted to operation on 16th October. The crural canal was opened, and was found to contain a kind of lipoma ; below this was a layer of fibrous tissue, which glided on the tumour, and resembled the fibrous tunic (fascia propria) of a hernial sac. The ring was opened and the fibrous tissue incised, exposing a trilobate tumour. By careful dissection one lobe was raised, and was found to be a lymphatic gland of the size and shape of a large bean ; the posterior half of this gland was situated behind the septum crurale and adherent to peritoneum ; the anterior half lay in the crural canal, and the hilum was adherent to Gimbernat's ligament. Other two, together the size of a large chestnut, were lying internal to the first. These glands having been removed, the peritoneum bulged into the wound, but there was no trace of a hernial sac. The anterior and posterior walls of the canal were approximated by two U sutures. Result was good. The patient was allowed up on 2nd November. There was no pain, and constipation was ameliorated.

The authors discuss the differential diagnosis of adenitis as laid down by various authors, and show that some of the so-called characteristic signs were absent in this case. The diagnosis was only made clear at operation.

On microscopical examination, the glands presented a fibrous capsule, with vestiges of lacunar tissue at the periphery, enclosing cretaceous material.

The condition had evidently been the supervention on a chronic adenitis of an acute inflammation, the result of strangulation in the crural ring.

If infection be recent and purulent, treatment should be prompt on account of close relation of these glands to the peritoneum.

DISEASES OF THE EAR.

By Dr. WALKER DOWNIE.

Aural Complications of Scarlet Fever, with Twelve Postmortem Observations. By Bernhard von Gaessler, Munich.—Aural complications of scarlet fever were not recognised by the medical profession until the second half of the eighteenth century. An epidemic of scarlet fever lasting from 1799 to 1802 was described by Struve as notable for the frequency with which the ear was severely affected ; and subsequent observers not only wrote of the association of aural diseases and scarlet fever, but deduced statistics illustrative of the frequency with which middle ear inflammation occurred in different epidemics of scarlet fever.

After quoting statistics bearing on the frequency with which different parts of the ear suffer, and opinions as to the modes of infection of the tympanum, the author gives details of the autopsies and the examinations of the petrous bone of twelve fatal cases of scarlet fever.

In the majority of those twelve cases death resulted from complications of the lungs and kidneys. The conditions noted in the external auditory meatus were of no special significance. The drum membrane showed important alterations in three cases. In one an exudate existed upon the lower half, in two others there were perforations. In seven, various abnormalities were present, but they were neither uniform nor peculiar. In two cases a normal condition prevailed. The middle ear, the adjoining cavities, and the tympanic Eustachian opening were involved in every instance in different degrees and ways. The simple cases showed limited injection and swelling of the membrane, some secretion in the bony portion of the tube, with otherwise empty cavities. In other cases sero-mucous and muco-purulent secretion existed in the cells under the tegmen and in the cavity of the middle ear, with considerable injection of the mucous lining of the middle ear, aditus, and antrum. In the severe cases, thick and purulent secretion filled all the cavities, which were lined with thickened, injected, granulating, and hæmorrhagic mucous membrane.

Simple hyperæmia, secretory process, and fibrinous exudate form the progressive states of the ear disease due to infection. The author thinks that the normal condition of the cartilaginous tube observed in most of the cases lends strong probability to the view that the ear disease is a manifestation of the general infection, and not an extension of the infectious process *in continuo*; and that pronounced inflammatory processes can exist behind a normal, or nearly normal, drum membrane.—(*Archives of Otology*, December, 1900.)

A Clinical and Histological Contribution to the Sarcomatous Tumours of the Temporal Bone. By D. F. J. Hegener.—The author describes two cases, followed by a detailed report of the microscopic examination of the tumours.

The first case was an alveolar endothelioma of the temporal bone in a boy, 3 years old. He had had pain in the region of the right ear and neck for four weeks prior to admission to hospital, and during the latter half of that time he had discharges from the right ear, with swelling of the mastoid region. The right auricle became pushed forwards, the auditory meatus became practically closed, and there was fluctuation over the mastoid area, so that the diagnosis of acute middle ear and mastoid inflammation, with subperiosteal abscess, was considered assured. Incision disclosed a greyish-red nodular tumour which had perforated the bone. The complete removal of the tumour exposed the facial nerve, and the bony shell of the tumour was removed everywhere up to the point where the bone seemed healthy. Following the operation, similar tumours appeared elsewhere, and the boy died some weeks later.

The neoplasm was composed chiefly of the endothelium of lymph-vessels, of connective tissue, and, in a moderate degree, of blood-vessel endothelium. He calls it an alveolar endothelium in preference to large round-celled sarcoma.

The second case was a melanotic sarcoma of the right ear in a female, 44 year old. She had had deafness for six months, and discharge for two weeks, which had been preceded by earache. Right facial paralysis had existed for four days, and for some time a bloody discharge from the nose. There was pain on pressure over the mastoid, but no swelling. A radical mastoidectomy was resolved upon, but on exposing the bone the cavities were found to be occupied by masses of malignant disease, a portion of which was removed for examination. On section, this proved to be melano-sarcoma.—(*Archives of Otology*, December, 1900.)

Report of Three Cases of Ligation of the Internal Jugular for Septic Thrombosis, following Purulent Otitis Media. By E. B. Dench, M.D.—As is well known, a septic thrombosis of the lateral sinus following inflammation of the middle ear not infrequently extends downwards into the internal jugular vein. As the clot becomes disintegrated, the characteristic symptoms of a septicæmia present themselves, and while a certain number of these cases have recovered without operative interference, the majority terminate fatally unless operated upon.

Dr. Dench describes three cases here, where thrombosis had occurred. In two of the cases, after ligaturing the vein, the entire portion involved was carefully dissected out, and in the third case the internal jugular was ligatured. A double ligature was passed around the vein close to the clavicle, and the vein divided between them, and two ligatures were then passed round the vein close to the base of the skull, and the vessel divided between them. After thus isolating the septic foci, it was found impossible to remove the veins, so the wound was packed with iodoform gauze. In all three cases a satisfactory result followed.—(*Archives of Otology*, December, 1900.)

Books, Pamphlets, &c., Received.

A Dictionary of Medicine and the Allied Sciences, by Alexander Duane, M.D. Third Edition. Enlarged and thoroughly Revised. With Eight Full-page Coloured Plates. London: Rebman, Limited. 1900. (14s. net.)

Lectures on Nasal Obstruction, by A. Marmaduke Shield, M.B. Camb., F.R.C.S. Eng. With One Coloured Plate, and Twenty-seven Illustrations in the Text. London: Rebman, Limited. 1900. (5s. net.)

Normal Histology, by Edward K. Dunham, Ph.B., M.D. Second Edition. Illustrated with 244 Engravings. London: Rebman, Limited. 1900. (12s. net.)

The Practice of Medicine: A Text-book for Practitioners and Students, by James Tyson, M.D. Second Edition, thoroughly Revised and in Parts Rewritten. With 127 Illustrations, including Coloured Plates. London: Rebman, Limited. 1901. (24s. net.)

A Manual of Modern Surgery, for the Use of Students and Practitioners, by John B. Roberts, A.M., M.D. With 473 Engravings and 8 Plates in Colour and Monotone. London: Rebman, Limited. 1900. (21s. net.)

Difficult Labour, A Guide to its Management, for Students and Practitioners, by G. Ernest Herman, M.B. Lond., F.R.C.P. With 165 Illustrations. New and Revised Edition. London: Cassell & Co., Limited. 1901. (12s. 6d.)

A Treatise on Mental Diseases, by Henry J. Berkley, M.D. With Frontispiece, Lithographic Plates, and Illustrations in the Text. London: Henry Kimpton. 1901. (21s. net.)

The Johns Hopkins Hospital Reports. Vol. VIII. Nos. 3-9. Baltimore: The Johns Hopkins Press. 1900.

The Practical Guide to the Public Health Acts: A Vade Mecum for Officers of Health and Inspectors of Nuisances, by Thos. Whiteside Hime, B.A., M.D. Second Edition. London: Baillière, Tindall & Cox. 1901. (15s. net.)

A Practical Treatise on Genito-Urinary and Venereal Diseases and Syphilis, by Robert W. Taylor, A.M., M.D. Second Edition, thoroughly Revised. With 138 Illustrations and 27 Plates in Colours and Monotone. London: Henry Kimpton. 1901. (25s. net.)

A Practical Treatise on Medical Diagnosis, for Students and Physicians, by John H. Musser, M.D. Fourth Edition, Revised and Enlarged. Illustrated with 250 Woodcuts and 49 Coloured Plates. London: Henry Kimpton. 1901. (28s. net.)

Progressive Medicine. Edited by Hobart Amory Hare, M.D., assisted by H. R. M. Landis, M.D. Vol. IV (December, 1900). London: Henry Kimpton. 1901.

A Manual of Otology, by Gorham Bacon, A.B., M.D., with an Introductory Chapter by Clarence John Blake, M.B. Second Edition, Revised and Enlarged. With 114 Illustrations and 3 Plates. London: Henry Kimpton. 1901. (10s. 6d. net.)

A Text-book of Embryology, for Students of Medicine, by John Clement Heisler, M.D. With 190 Illustrations, 26 of them in Colours. London: W. B. Saunders & Co. 1899. (10s. 6d. net.)

Modern Medicine, by Julius L. Salinger, M.D., and Frederick J. Kalteyer, M.D. Illustrated. London: W. B. Saunders & Co. 1900. (10s. 6d. net.)

Modern Surgery, General and Operative, by John Chalmers Da Costa, M.D. With 493 Illustrations. Third Edition, Revised and Enlarged. London: W. B. Saunders & Co. 1900. (21s. net.)

Atlas and Epitome of Special Pathologic Histology, by Docent Dr. Hermann Dürck. Authorised Translation from the German. Edited by Ludvig Hektoen, M.D. With 130 Coloured Illustrations on 62 Lithographic Plates. London: W. B. Saunders & Co. 1900. (13s. net.)

A Manual of Syphilis and the Venereal Diseases, by James Nevins Hyde, A.M., M.D., and Frank Hugh Montgomery, M.D. Second Edition, Revised and Enlarged. With 58 Illustrations in the Text, and 19 Full-page Lithographic Plates. London: W. B. Saunders & Co. 1900. (17s. net.)

A Text-book of the Practice of Medicine, by James M. Anders, M.D., Ph.D., LL.D. Illustrated. Fourth Edition. Thoroughly Revised. Two Vols. London: W. B. Saunders & Co. 1900. (24s. net.)

A Text-book of Pathology, by Alfred Stengel, M.D. With 372 Illustrations. Third Edition. Revised. London: W. B. Saunders & Co. 1900. (21s. net.)

A Text-book of Histology, including Microscopic Technic, by A. A. Böhm, M.D., and M. von Davidoff, M.D.; Edited by G. Carl Huber, M.D.; Translated by Herbert H. Cushing, M.D. With 351 Illustrations. London: W B. Saunders & Co. 1900. (15s. net.)

Atlas and Epitome of Gynecology, by Dr. Oskar Schaeffer; Authorised Translation, Edited by Richard C. Norris, A.M., M.D. With 207 Coloured Illustrations on 90 Plates, and 62 Illustrations in the Text. London: W. B. Saunders & Co. 1900. (15s. net.)

A Manual of the Diagnosis and Treatment of the Diseases of the Eye, by Edward Jackson, A.M., M.D. With 178 Illustrations and 2 Coloured Plates. London: W. B. Saunders & Co. 1900. (10s. 6d. net.)

Cancer of the Uterus, its Pathology, Symptomatology, Diagnosis, and Treatment; also the Pathology of the Diseases of the Edometrium, by Thomas Stephen Cullen, M.B. With 11 Lithographic Plates, and over 300 Coloured and Black Illustrations in the Text. New York: D. Appleton & Co. 1900.

A Text-book of Pharmacology and Therapeutics, or the Action of Drugs in Health and Disease, by Arthur R. Cushny, M.A., M.D. Second Edition. Revised and Enlarged. Illustrated with 47 Engravings. London: Rebman, Limited. (17s. net.)

The Fundamental Data of Modern Pathology (History, Criticisms, Comparisons, Applications), by Dr. Achille Monti; Translated from the Italian by John Joseph Eyre, M.R.C.P., L.R.C.S.I., D.P.H. Camb. London: The New Sydenham Society. 1900.

Oral Sepsis as a Cause of Septic Gastritis, Toxic Neuritis, and other Septic Conditions. With Illustrative Cases. By William Hunter, M.D., F.R.C.P. London: Cassell & Co., Limited. 1901. (3s. 6d.)

"First Aid" to the Injured and Sick, an Ambulance Handbook, by F. T. Warwick, B.A., M.B., and A. C. Tunstall, M.D. Bristol: John Wright & Co. 1901. (2s. 6d.)

Sidmouth as a Health Resort and Place of Residence, by A. Macindoe, M.D., D.P.H. Bristol: John Wright & Co. 1901. (1s.)

Report of the Anæsthetics Committee of the British Medical Association. July, 1901.

Medical Examination for Life Insurance, by Charles Lyman Greene, M.D. With 99 Illustrations. London: Rebman, Limited. 1901. (17s. net.)

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FOUR WEEKS ENDING 16TH FEBRUARY, 1901.

	WEEK ENDING			
	Jan. 26.	Feb. 2.	Feb. 9.	Feb. 16.
Mean temperature, . .	41·8°	37·0°	36·3°	34·7°
Mean range of temperature between day and night, .	10·0°	10·2°	9·3°	14·6°
Number of days on which rain fell, ...	6	4	3	1
Amount of rainfall, . ins.	0·95	0·66	0·11	0·03
Deaths registered, . . .	353	340	370	365
Death-rates, ...	24·4	23·5	25·5	25·2
Zymotic death-rates, . .	4·4	6·3	4·2	4·5
Pulmonary death-rates, .	7·0	5·9	8·1	7·2
DEATHS—				
Under 1 year, . . .	67	56	73	67
60 years and upwards, .	81	75	89	86
DEATHS FROM—				
Small-pox, ...	10	24	10	20
Measles, ...	...	2	1	1
Scarlet fever, . . .	...	3	4	4
Diphtheria, . . .	2	3	2	6
Whooping-cough, . .	28	34	27	25
Fever, ...	11	5	9	3
Diarrhœa, ...	12	21	8	6
Croup and laryngitis, .	...	...	1	1
Bronchitis, pneumonia, and pleurisy, . . .	73	62	91	83
CASES REPORTED—				
Small-pox, ...	218	58	142	77
Diphtheria and membranous croup, ...	16	13	20	16
Erysipelas, . . .	19	21	19	16
Scarlet fever, . . .	80	60	65	77
Typhus fever, . . .	3	1	...	2
Enteric fever, . . .	50	23	17	13
Continued fever, . .	...	...	...	...
Puerperal fever, . .	2	2	2	...
Measles,* . . .	19	20	19	26

* Measles is not notifiable.

SANITARY DEPARTMENT,
GLASGOW, *22nd February, 1901.*

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SURGICAL DISEASES OF THE KIDNEY: THEIR GENERAL SYMPTOMATOLOGY AND PHYSICAL DIAGNOSIS—WITH ILLUSTRATIVE CASES.

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(*Continued from* p. 104.)

By a careful study of the symptoms and an examination of the physical signs, in many cases of surgical disease of the kidney a reliable diagnosis may be arrived at; but, in others, even a most critical inquiry into all the facts ascertainable by the ordinary methods of investigation may fail to throw sufficient light on the case to justify the surgeon either in refusing or recommending an operation which may involve serious risk to the life of his patient. Therefore, any additional methods by which precise information may be obtained, and difficult diagnostic problems solved, are of the highest value to the clinical observer.

V. Examination of the Bladder with the Cystoscope has proved of great practical value, not only in a negative way by eliminating lesions of the bladder from the diagnosis, but also by giving positive evidence of the presence of disease in one or both kidneys. When nephrectomy is contemplated on one kidney, a knowledge of the presence and functional activity of the other is of prime importance. From ocular inspection, if carefully carried out by an educated eye, exact conclusions may be drawn, which cannot be arrived at otherwise, and a course of treatment can be decided upon early in the course of the disease.

Cystoscopy, when conducted with aseptic precautions, is unattended with danger, and is comparatively easily carried out in both sexes, but for obvious reasons with greater facility in the female.

By employing this method early in the course of the disease, most valuable time may be utilised, which would otherwise be wasted waiting for other evidences to prove the nature of the renal lesion. Too often, when we wait until the symptoms are sufficiently significant to form a basis for diagnosis, the disease has advanced beyond our power to remedy. In an examination with the cystoscope, the appearance of the orifices of the ureters, the character of the fluid which escapes, and nature of the flow, must all be observed. In books upon physiology, the urine is said to trickle, drop by drop, into the bladder. Such a description is entirely wrong and misleading. In health, the urine collects slowly above the closed sphincters at the orifices of the ureters, and at intervals is thrown by squirts with considerable force into the bladder. The length of the intromissions depends upon the activity of the kidney. Under favourable circumstances, about 10 to 15 drops are ejected, alternately, from each ureter every thirty or forty seconds. By carefully watching the line of the ureter, the portion coursing through the wall of the bladder, the part immediately above the sphincter, will be seen gradually to distend. Immediately before the urinary squirt appears, the expanded duct, looking, in form, not unlike a miniature engorged leech, is drawn slowly upwards and outwards. It gives a sudden wriggle, its muscular fibres contract, the sphincter is forced open, and the contents are ejected. The urine, as it is thrown into the bladder, forms a distinct jet, which shoots downwards and inwards. The spurt occupies about two seconds. The form of the spout can be seen most easily in cases of renal hæmaturia. The appearances will be described when we consider the significance of blood, or of pus, in the urine. The aspect of the orifices of the ureters individually, and in relation to each other, is important to observe. It may be stated, as a general observation, that, when the appearance of the orifice of one ureter is altered while that of the other is normal, the renal lesion is on the side of the morbid ureter. And, again, if the number of urinary shoots be counted within a given time, as they occur from each side, and a marked difference is observed, the side on which most shoots are seen is either the site of considerable local irritation or is the most active organ functionally. When due to morbid irritation, the shoots not only succeed one another rapidly, but they are of short duration, and the urine which escapes is small in quantity; whereas, in increased functional activity, the shoots, in addition to being frequent, are prolonged, and the amount of urine large. In health, the orifices in both ureters can be easily seen, and their action observed. In disease, however, especially when the bladder is involved, it is not always possible to recognise the orifices. The relative value of observations by the cystoscope and by the ureter catheters will be discussed farther on.

Examination by the finger in the rectum or in the vagina, according to the sex, and *with a sound in the bladder*, may lead to the detection of a stone or the presence of disease in the lower portion of a ureter.

In the female, about 3 inches up the vagina, the finger can detect, running backwards and outwards, two cord-like bands, and can trace them backwards for a distance of 3 inches, or even more, until they are lost behind the cervix, or follow them downwards to the base of the bladder. The examination should be made first when the bladder is well filled, afterwards, when empty; and considerable help may be got by pressing the bladder downwards and backwards, with the hand in front of the abdomen. In this way, the ureters are made more accessible and more resistent to the finger in the vagina or rectum. In health, the ureters feel soft and yielding; but as a consequence of disease, and especially in tuberculous and inflammatory lesions, they may lose their elasticity, and be converted into hard, rigid cords. In place of exercising pressure with the hand in front, a sound may be introduced into the bladder, and its wall fixed, or the parts manipulated between the examining finger and a sound introduced into the bladder. The beak of the instrument is made to press upon the line of the ureters. Exploration *via* the vagina is limited, but *per rectum* the whole of the pelvic portion of the ureters may be examined. The landmarks are the internal iliac arteries, alongside which the ureters lie.

In cases of stone impacted in the ureter, by palpation through the abdominal parietes much information may be gained when the stone is situated above the brim of the pelvis, provided the walls are flaccid and the patient thin; but when the muscles are rigid, which is often the case, or the patient is corpulent, the detection of a stone in the upper part of the ureter is almost impossible. Pressure with the hand, however, generally elicits tenderness in the locality of the stone, or may even induce acute pain.

When the calculus has passed to the lower third of the ureter, examination with the finger in the rectum or in the vagina, according to the sex, may lead to the detection of the stone and the exact situation occupied by it. A sound should be passed into the bladder, and with the left index finger in the vagina or rectum, the beak of the instrument is made to press upon the line of the ureters and their orifices (Figs. 1 and 2, pp. 244, 245). In the female, the ureter may be dilated and the bladder explored by the finger.

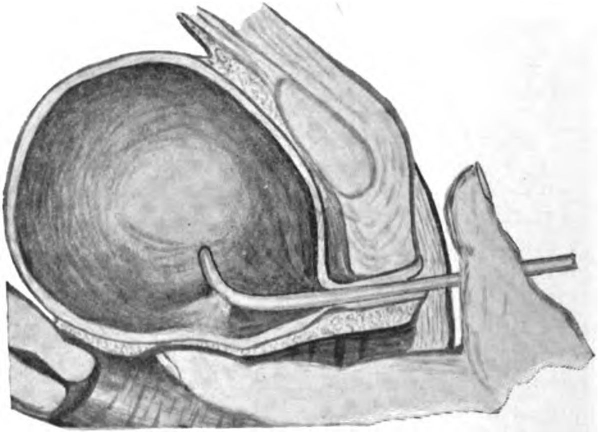

FIG. 1.

Represents the position of the swelling in the bladder and the method of examining with the finger and sound when the calculus is caught at the vesical orifice of the ureter.

VI. COLLECTING THE URINE SEPARATELY FROM THE TWO URETERS.

Before entertaining the question of an operation upon the kidney, especially nephrectomy, it is necessary to establish beyond doubt that the kidney on the opposite side is healthy.

The most exact method of determining this is to procure, by some means, separate samples of urine from each ureter. This was done for many years in one of two ways—either by catheterisation of the ureters, or by compression of one of the ureters, while the other was allowed to remain patent. But of late a third method has been suggested, namely, by segregation. The method recommended by Glück, to ligature the ureter of the diseased kidney, to inject hypodermically a solution of iodide of potassium, and to examine the urine passed from the kidney supposed to be healthy, although a certain method is an unnecessarily dangerous one.

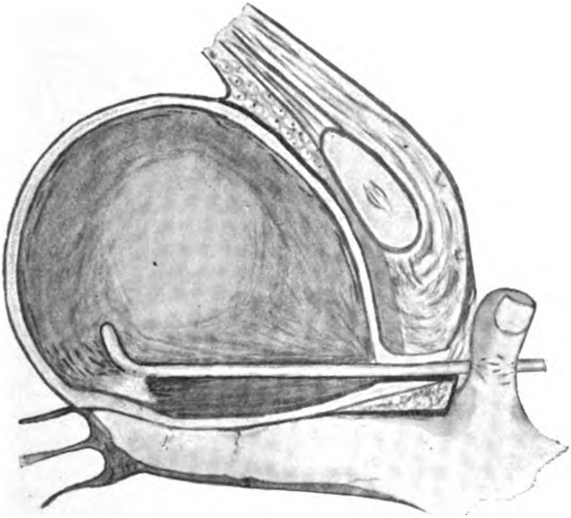

Fig. 2.

Shows the relationship when the stone is caught in the ureter before it passes through the wall of the bladder.

The methods will first be described, and the merits and disadvantages of each will be considered, but no attempt will be made to form a judgment of the claims of any particular instrument or method—the principles alone will be discussed.

There are five methods by which the ureter may be compressed—(1) By pressing on it by the hand or a rounded lever in the rectum, as it crosses the common iliac artery on the left side, or the external iliac on the right side; (2) as suggested by Polk, by occluding the ureter between the finger in the rectum and a catheter in the bladder; (3) by compressing the orifice of the ureter by means of Tuchmann's ureter forceps introduced into the urinary bladder; (4) by Ebemann's forceps for compressing the ureter with one blade in the bladder and the other in the rectum; and (5) by pressing the ureter, as it passes through the wall of the bladder, by a tampon introduced into the bladder and subsequently filled with mercury.

The method first mentioned, of compressing the ureter by means of a lever introduced into the rectum, was advocated by Mr. Davy, but it has the disadvantage that it is not always applicable in consequence of the shortness of the mesentery of the rectum in some cases.

The second mode of procuring a specimen of urine from one kidney, that suggested by Dr. Polk, is more easy of application. He takes a large catheter with a deep and decided curve, so that when it is passed into the bladder it hugs the pelvic wall, and the curve passes across the line of the ureter. Two fingers are carried as far as possible into the rectum, and are pressed against the catheter, so as to occlude the ureter. By means of the catheter in position the bladder is emptied and cleansed, and as urine flows in from the free ureter it is withdrawn and tested.

The third method, that employed by Dr. Tuchmann, who devised an instrument resembling a lithotrite, with which he seizes the lower end of the ureter; its branches are made to approach each other by a slight spring, and it has large holes to allow the urine to flow out from the bladder. The branches of the instrument, when drawn apart, leave a space between the blades of little more than half an inch, so that when the instrument is pressed downwards and backwards on the trigone, the vesical portion of the ureter may be included between its branches and compressed by the action of the spring. In this way the flow from the included ureter is arrested; when it is closed a much smaller quantity of urine appears, and, when after a time it is let go, an accumulation of urine streams out. By Ebemann's method, one blade of the forceps was placed in the rectum and the other in the bladder, and the ureter compressed between them. The fifth method is a little different from those just described. The idea of compressing the orifice of the ureter by means of an india-rubber balloon filled with mercury was suggested to Silbermann, by finding one of the ureters compressed by a fibroma of the bladder, which obstructed the vesical orifice of the right ureter, and induced a hydronephrosis. By means of an instrument specially constructed for the purpose, an expansible balloon is introduced into the bladder, while a vulcanite pessary is passed into the vagina of the female or the rectum of the male. By means of a small catheter the balloon is distended with mercury, the weight of which is sufficient to compress one ureter, while urine from the other is permitted to escape through a separate catheter, and is collected.

Compression of the ureter was proposed and employed in the early endeavours to procure two separate samples of urine, one from each kidney, but it was very soon given up as unreliable, and the advantages of catheterisation seemed, for a time, very apparent. The difficulties, however, were so great, at first, that Hegar and Säger suggested to cut down the ureters in the anterior vaginal fornix and temporarily ligature them.

Simon was the first to propose catheterisation of the ureters in the female, and although not always successful, in some instances he derived valuable information when he managed to introduce the instruments into the ureters. To perform such a delicate operation by the sensation of touch alone is very difficult, and it is only by patient and prolonged practice on the dead subject that one can hope to succeed in performing the operation on the living; but once the art has been mastered it is easier to pass a catheter into the living ureter than into the dead one.

Early in 1883 the writer devised and used an electric-light endoscope, and found that, when the bladder was well illuminated, the orifices of the ureters were easily seen.[1] Seeing the ureteral openings at once suggested the introduction of catheters and sounds, in order to gain further information; and, for some years following, careful investigations were carried out, first with the original instruments, and afterwards by the methods which the inventive ingenuity of other observers have made available.

The methods employed by Albarran, Bremer, Casper, Kelly, and Nitze, have all been introduced since the time referred to, and have been used with varying success. What has still to be found out is the most reliable and, at the same time, the least harmful means of attaining information of diagnostic value.

In order to employ any of the uretro-cystoscopes successfully, certain intra-vesical and extra-vesical conditions are necessary:—

1. The urethra must be free from obstruction, and its lumen

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[1] *Glasgow Medical Journal*, August, 1883.

be sufficient to admit the instrument without injury to the mucous membrane during introduction.

2. The urinary bladder must be capable of retaining 8 oz., or 130 cubic centimetres, of fluid.
3. The fluid must remain clear for a sufficient time to permit the catheter being introduced into the ureter.
4. The orifices of the ureters must be accessible, and of sufficient size to admit the ureter catheter.

Condition 1 is very evident. If there is any stricture, ulceration, or spasm of the urethra, it is clear that the passage of the instrument will either be prevented, or the force required to introduce it will induce bleeding, and so vitiate any observations that may be attempted.

In cases of chronic inflammation of the bladder, and in many other lesions, the capacity of the viscus is so reduced that it cannot retain enough fluid to permit the necessary manipulation of the instrument, or on account of changes in the vesical wall the orifices of the ureters may be hidden by muscular fasiculæ.

The clear fluid introduced into the bladder may become contaminated by blood or by pus either from the bladder or from the kidneys, and they may be so large in amount as to obscure the ureteral openings. This difficulty may to some extent be obviated by using an irrigating instrument. Its employment enables the fluid to be constantly changed.

Not infrequently the wall of the bladder is so altered that it is impossible to see the orifices of the ureters, although their situation may be detected by the escape of sudden spouts of contaminated urine. In such instances, catheterisation of the ureters is difficult or impossible.

The extra-vesical conditions which militate against the employment of ureter catheters in the male are enlarged prostate and tumours at the base of the bladder or in the rectum, and in the female tumours of the vagina, rectum, and uterus.

Even supposing all the conditions are favourable for the introduction of the ureter catheters, the examination may fail in its results, because (1) the eye of the catheter has become blocked by blood-clot, pus, or mucus; or (2) the point of the catheter may have pushed a fold of mucous membrane in front of it and obstructed the flow; or (3) the presence of the catheter may have induced spasm of the ureter or suppression of urine.

While, however, there are many difficulties to contend with in the accurate use of ureter catheters, with care and practice the expert can succeed in introducing the instruments in about

80 per cent of the cases submitted to him, but even after he has managed to collect the urine separately from the two ureters there are certain sources of error which he must guard against.

The introduction of the catheter is liable to induce bleeding from the mucous membrane of the ureter, and therefore the urine first collected must be discarded. After the instrument has been passed into the ureter, unless the urine is carefully syphoned away, it may collect in the lower end of the ureter, and, passing the eye of the instrument, be ejected directly into the bladder. It is very difficult to estimate by means of ureter catheters the amount of urine excreted by each kidney. A certain amount may escape past the catheters, on the one hand, and so lead to too low an estimate of the functional activity of the organ; while, on the other hand, the presence of the foreign body in the ureter may induce a diminution from the normal excretion, or even a reflex anuria.

The employment of ureteral catheterisation is associated with certain dangers, the most evident and important being the conveyance of infective matter into the ureter from the lower urinary passages, but this danger, being now fully recognised, can be avoided by the employment of every possible precaution in cases where infection is likely to take place. It is very evident that where the bladder is infected by septic matter no amount of irrigation will cleanse it sufficiently to guard against infection of the ureters by a catheter passed through the bladder. Therefore, in such cases, catheterisation cannot be safely employed.

Catheterisation of the ureters may be employed—

1. In cases of tumours in the renal region where there is doubt as to the origin and nature of the swelling.
2. In lesions of the urinary apparatus where it is important to determine whether the disease is limited to one kidney.
3. To demonstrate in unilateral disease the functional activity of the kidney supposed to be healthy.

In some cases, certain facts can be ascertained regarding surgical renal lesions by an examination with the cystoscope alone; in others, the ureter catheters should also be employed. For example, in many cases of renal hæmaturia, and in some cases of pyuria, the escape of blood or of pus from a ureter can be readily seen by the cystoscope. When the amount of blood present is small, but still sufficient to perceptibly stain the urine, the cystoscope is, in the male, more reliable than the ureter catheter, the introduction of which into an inflamed ureter may cause a little bleeding, and so vitiate the value of the observation. On the other hand, the cystoscope is unable to detect the presence of albumen, bacteria, or tube-casts in the urine from one kidney only. For this purpose, the ureter catheter must be used.

The cystoscope, being the safer instrument to employ, should be used first; and when further information may be looked for by the employment of the ureter catheters, these instruments may be brought into requisition.

The cystoscope is most useful in enabling us to diagnose between vesical and renal lesions, which manifest themselves by the presence of pus or of blood in the urine. Not only, for example, may we see in a particular case that there is no vesical disease present to account for the abnormal constituents in the urine, but with care and patience we may actually see that a clear excretion is flowing from one ureter, while perceptibly contaminated urine is escaping from the other.

Perhaps the simplest method of illustrating the relative value of the cystoscope and the ureter catheters in the diagnosis of renal disease is to take three cases.

CASE I.—*Pain and tenderness on pressure in the right lumbar region — Hæmaturia — Renal swelling on the left side—Blood and albumen from right kidney only—Calculus in pelvis—Atrophyof kidney.*

The patient, a young woman, aged 27, suffered from vague pains in the right renal region for many years—twelve years at least—and occasionally hæmaturia, which was seldom present for more than a few days at a time. The examination of the right lumbar region with the hand failed to reveal the right kidney; but the patient complained of considerable pain and tenderness of the part on palpation. On the left side a distinct renal swelling could be made out. The urine contained a trace of albumen, but no tube-casts. The questions naturally raised were—Are the albumen and blood from the enlarged left kidney? Are they from the painful right kidney, or are both organs diseased? Examination of the bladder with the cystoscope, during a hæmaturia, showed the mucous membrane and the orifices of the ureters to be healthy; but blood-stained urine was seen issuing from the right ureter, while the excretion from the left ureter was colourless. This observation cleared up the origin of the hæmaturia, but what about the albuminuria and the enlargement of the left kidney? Was the left kidney the seat of the disease, or was the increase in bulk due to compensatory hypertrophy? The left ureter was catheterised, and the urine drawn off proved to be strictly normal. At the operation the right kidney was found to be greatly atrophied, and the pelvis was occupied by a uric acid calculus. Subsequently the urine was normal.

CASE II.—*Enlargement of both kidneys—Frequent micturation, with pus, albumen, tubercle bacilli, and hyaline tube-casts in the urine—Spinal curvature of old standing, with recently healed sinuses in the back.*

A man, aged 22, who had suffered since boyhood from disease of the mid-dorsal vertebræ, also complained of symptoms pointing to tuberculous disease of the urinary tract. The urine was abundant, of low specific gravity, and there was a moderate amount of pus in all the specimens, about 2½ per cent, as calculated from the deposit thrown down from 1,000 c.cm. of urine allowed to stand for twenty-four hours. The quantity did not vary much in the different samples examined, and on several occasions tubercle bacilli were detected in the deposit. The quantity of albumen varied considerably; the amount present was not regulated by, or in proportion to, the deposit of pus and hyaline; and finely granular tube-casts were always present. Pain, more or less severe in the back and in the lumbar regions, had been so long present that little importance could be attached to it as a factor in diagnosis, and frequent micturition had been complained of for many months prior to the appearance of pyuria. Occasionally there was pain in the bladder, but this was not a marked feature of the case, nor had blood at any time appeared in the urine. The symptoms, therefore, other than the abnormal conditions in the urine, did not clearly indicate the seat of the disease. Hyaline tube-casts were present, the quantity of albumen was not fully accounted for by the pus, and tubercle bacilli were present. Was the increase in bulk of both kidneys due to the same cause, probably amyloid infiltration, or was one kidney tuberculous? Examination by the cystoscope showed the bladder to be little altered from normal, but there was distinct evidence of irritation of the orifice of the left ureter, while the other was healthy in appearance. The cystoscope failed to show any difference in the characters of the urine flowing from the two ureters. The right ureter was catheterised, and the urine from it contained albumen and hyaline tube-casts only, while the urine from the left kidney in addition contained tubercle bacilli and pus, showing that, while both kidneys were amyloid, the left was the seat of a tuberculous lesion. No operation was performed; the future history of the case confirmed the diagnosis.

CASE III.—*Sudden severe and prolonged attacks of renal colic—Suppression of urine—Sudden relief—Recurrence in three weeks—Microscopic quantity of blood in urine.*

A woman, aged 26, was suddenly seized with a severe attack of renal colic on the right side, with suppression of urine for twenty-four hours. The pain suddenly subsided, and three hours afterwards the patient passed 5 oz. of concentrated urine, and the following day she was practically well. Three weeks after she had a second attack exactly the same as the first, and on examination no renal swelling could be made out, but the right kidney was extremely tender and painful on pressure. No albumen or pus was found in the urine, but blood could be detected by the guaiacum test and by microscopic examination of the deposit. The cystoscope revealed nothing abnormal in the bladder, but the orifice of the right ureter seemed to project unduly, and the mucous membrane surrounding it was deeply injected. No blood could be seen escaping from either ureter. On introducing the ureter catheter, an obstruction was met with a third of an inch from the orifice, and on passing a probe, a calculus, the size of a barleycorn, was found in that situation, and was subsequently removed by operation.

These three cases illustrate some of the ordinary uses to which the instruments may be put, and the exact knowledge the surgeon is likely to derive from their use in his endeavour to clear up the more difficult points in diagnosis.

In cases of simple hæmaturia, if the patient is examined during an attack, and the quantity of blood is sufficient to be perceptible to the eye, the cystoscope may be used with advantage. On the other hand, if the amount of blood is very small, its diagnostic significance is not great if the ureter catheters are employed, because the use of these instruments may of itself cause bleeding from the mucous membrane of the ureters, which in many instances is inflamed or hyperæmic, and bleeds easily. In the female the procedure is easily carried out, and the results are more certain; but in the male the catheters are difficult to introduce, and small hæmorrhages are likely to vitiate the examination, which cannot, therefore, be relied upon when the quantity of blood is small.

In pyuria the results of examinations by the catheters are more satisfactory than in cases of hæmaturia. In many of these cases the quantity of pus discharged from the kidney is so small, and its escape so irregular, that the cystoscope fails to establish from which kidney the purulent urine flows. In these instances the ureter catheters should be employed after an examination with the cystoscope has failed to furnish the required information. When, however, the diseased kidney is secreting little urine, and the quantity of pus is considerable, the discharge may be readily seen escaping from the uretral orifice. In some instances it is forced out of the ureter in form and appearance not unlike a cheese maggot, little masses of purulent discharge may be seen on the floor of the bladder, curled up just like dead maggots, unmixed with the solution introduced for the cystoscopic examination. But when the bladder contracts to expel its contents, the force required to drive them out causes the purulent masses to lose their form and become intimately mixed with the fluid in which they float. In this way they are deprived of their characteristic form, which can be observed only while they are within the bladder. In this respect, they, being more friable, differ from blood-clots formed in the ureter.

A point of some importance in diagnosis is the appearance of the orifice of the ureter as seen by the cystoscope. When there is a distinct evidence of irritation of the orifice of one ureter, while the other is normal in appearance, it may be safely inferred that the renal lesion is, if unilateral, on the side of the morbid ureter.

Objections have been raised against the use of the catheters on account of the alleged danger of introducing septic matter into the ureter, either from the bladder or by instruments which have have not been properly sterilised.

In many cases the ureter is already septic before catheterisation is thought of. On the other hand, in cases of cystitis, where the kidney is supposed to be aseptic, unless in exceptional circumstances, the catheters should not be employed, as, even although they are carefully sterilised, and the bladder is as thoroughly cleansed as possible, there is danger of introducing septic matter into the ureter. Any injury of the ureter by the use of the catheter must add to this danger.

Both the ureter catheters and the cystoscope must be used with aseptic precautions. Not only should the instruments themselves be sterilised, but the meatus and surrounding parts should be carefully washed and rendered as free from contaminating particles as possible, and after the examination has been made, the bladder should be carefully washed out with a fresh supply of suitable antiseptic solution.

It is in the detection of albumen, tube-casts, and micro-organisms in the urine from one kidney alone that the ureter catheters are most valuable, and it is just at this point that the cystoscope fails us. But all information that the use of the cystoscope can give us should be procured before the catheters are employed.

In cases of suspected Bright's disease, amyloid infiltration, or tuberculous lesions of the kidney, it may be necessary to make several examinations before a definite opinion can be expressed regarding the condition of each kidney. This repeated examination may be irksome to the patient, but when the importance of knowing the precise condition of both kidneys, prior to operation, is fully explained and recognised, the trouble of catheterism will be submitted to. When the surgeon is certain that the second kidney is healthy, he can recommend nephrectomy as a life-preserving operation, whereas, if he has not ascertained the condition of the opposite organ, he may only remove the most diseased kidney, and lose his patient.

While fully recognising the high value of catheterism of the ureters as an aid in diagnosis, it should not be resorted to unless other methods of inquiry have failed to elicit the required information. The cases in which the operation is justified are not very numerous, and, like all other new methods of clinical research and treatment, it is liable to suffer from the over-enthusiasm of its advocates. By some of those who use these instruments there has been considerable difference of opinion expressed as to the relative value of the cystoscope and the ureter catheters in the diagnosis of renal disease.

(*To be continued.*)

EYE-STRAIN IN YOUNG CHILDREN.[1]

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COMFORTABLE and perfect acuteness of vision is only possible when the optic nerve, retina, and choroid are healthy; when the refractive media are clear; when the refraction, accommodation, and convergence are normal, so that images can be accurately focused on the macula; and when the balance of the external muscles of the eyes is in a state of equilibrium. Besides these very important conditions, which imply that the structure of the eyes is healthy and the functions normally active, there are other conditions, not directly ocular in origin, which must also exist. It is necessary for perfect vision that the illumination should be sufficient; that the size of objects, as expressed by the size of their corresponding visual angles, should not be below a certain standard; that the amount of eye work should not be excessive; and that the individual under examination should be in good health. If any one, or in greater measure, if any combination of these essential conditions to good visual acuteness be absent or neglected, symptoms of eye-strain may develop. The term eye-strain covers a great variety of symptoms, all of which arise from excessive effort on the part of the individual to prevent indistinctness of vision, and includes disorders which show no manifest symptoms or changes in the eye or its appendages. The chief of these extra-ocular symptoms is probably headache, either of the migrainous type, or of a more general kind, and often accompanied by nausea and vomiting, severe enough to suggest the possible onset of cerebral disease. Various functional nervous disturbances have also this origin; indeed, Dr. Stevens, of New York, goes so far as to say that "difficulties attending the functions of accommodating and adjusting the eyes in the act of vision, or irritations arising from the nerves involved in these processes, are amongst the most prolific sources of nervous disturbance, and more frequently than other conditions constitute a neuropathic tendency," and he goes on to cite cases of neuralgia, neurasthenia, chorea, and epilepsy, which got rapidly well after the defective ocular condition was attended to. Distant symptoms are not, however, frequent in children; as these symptoms are more likely to develop in after years when the errors in muscular balance begin to manifest themselves as an addition to the difficulties associated with the ametropic error. The directly ocular symptoms of eye-strain are largely the same in all forms of ametropia. A common type of symptom is a feeling of soreness or irritation in the eyes after near work. This is often associated with lachrymation and a congested condition of the lids, and if the eye-strain is unrelieved the hyperæmia may develop into a pronounced chronic conjunctivitis with marginal blepharitis. Other commencing forms may complain of a simple failure of vision after a short period of near work; or, in hypermetropic children, a blurring of distant vision owing to the persistence of a spasm of accommodation. The symptoms may or may not be associated with changes in the fundus. In the milder forms of eye-strain in hypermetropes, you may have a normal fundus, or, at most, appearances suggesting a retino-choroidal hyperæmia; but in myopes, pronounced alterations in the eye background are rarely absent, of which changes in the choroid and sclera are most evident in the early years. These changes, especially when progressive, always give one the impression that the parts involved are, in addition to the inflammatory changes, thinned out by distension, and often in the neighbourhood of the disk, present a peculiar "dragged on" look. If we assume that the optic nerve, retina, choroid, and refractive media are primarily healthy, of all other possible causes of eye-strain, there can be no doubt that abnormal refraction plays the chief part, and this fact makes it of the highest importance that errors of refraction should receive early attention, so as to secure to children during the school period the most accurate and comfortable sight, and further, because these defects, if left uncorrected, may give rise, not only to a great deal of unnecessary disablement and suffering to the individual through their simple presence, but, in the long run, may herald in disease of the eye structure which can only be alleviated in a very modified way. During recent years there has been more attention paid to the necessity for investigating complaints of defective eyesight in children, but there is still great room for further progress. The remissness of parents to inquire into complaints of defective sight can in some measure be explained by the fact that the external appearances of ametropic eyes present in few cases any striking abnormality. This view is borne out by the fact that any apparent maldevelopment in other parts of the body is early brought under the notice of the medical attendant, and measures taken to have it speedily put right. The presence of a subconjunctival hæmorrhage, a congenital cataract, or a subconjunctival tumour, may bring a mother to seek advice in the early days, or the development of a squint in the early years, but, for the most part, children get leave to go to school and go worrying on with imperfect sight, without parents, among the working classes at least, taking very much notice beyond possibly sending a note to the teacher giving it as the parental opinion that the child should be moved up to a front seat.

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[1] Read at a meeting of the Southern Medical Society, held on 10th January, 1901.

But while carelessness and want of thought may account for some share of the remissness of parents, in many cases it arises from what may be called a conscientious objection to allowing their children to wear spectacles, and this objection is largely fostered by the fact that to a man or boy wearing glasses many sources of employment are by that fact cut off. It is no uncommon occurrence to have ametropes beyond the age of childhood, whose relative visual acuity is very defective, refusing to have glasses although their acuteness of vision with correction comes up to the normal, and giving as their reason that they would be dismissed from their employment if they attempted to wear spectacles. This seems to me to be a very shortsighted policy on the part of any employer of labour, as it must undoubtedly tend to a loss of efficiency among workmen; for, if these young adults are able to struggle through their work with defective sight, they surely would be much better able for the same work when wearing their proper optical correction.

The ideal or standard eye is emmetropic, that is, the optical conditions of the eye are such that parallel rays of light come to a focus on the retina without accommodative effort. Ideal development or physical perfection of structure of any organ or part is infrequent. In some parts of the body this gives rise to little inconvenience, but in the eye, although deviations from the normal are insignificant as compared with those met with in other organs, defects of development require to be very slight to bring about a very marked degree of ametropia, if we remember that an increase or diminution in the axial length of the eyeball by 1 mm. gives rise to a refractive error of 3 dioptres. As a matter of fact, emmetropia is very rare. Dr. Jackson, of Philadelphia, as the result of the examination of the refraction of 4,000 eyes, found emmetropia only present in 1·3 per cent; and other observers, while confirming a low percentage, place its frequency somewhat higher than this. It follows, therefore, that the terms emmetropic eye and normal eye are not quite synonymous, the emmetropic eye being only a standard by which all forms of ametropia may be compared. Any departure from this ideal optical standard constitutes ametropia, and this may take the form of hypermetropia, myopia, or astigmatism. In all these different varieties distinct vision is either impossible or only obtained by excessive and often injurious muscular effort, and thus refractive errors bring about of necessity abnormalities in the accommodation, convergence, and muscular balance. It is important to bear in mind that near work cannot be accomplished without muscular effort—accommodation by the action of the ciliary muscles, and convergence by the associated action of the internal recti

—and that these muscles, if given continuous and excessive work to do, become fatigued, and are only able to continue active by an excessive expenditure of nervous energy, which sooner or later is bound to manifest itself in uncomfortable vision. We know that it is exceptional for any newly born child to have a refraction otherwise than hypermetropic. With the growth and development of the child the eyeball also undergoes changes, not only in its diameters, but also in its refractive power. From an average axial length of 17 mm. at birth, the eyeball lengthens out to 23·8 mm. in the adult, and the refraction gradually, from a pronounced hypermetropia, approximates the emmetropic standard. The presence of hypermetropia, then, in the early years is to be looked upon as the usual refraction of childhood, and indeed hypermetropia continues to be the most common form of refractive error met with even in adult life. In the 4,000 eyes examined by Dr. Jackson, the refraction was hypermetropia or hypermetropic astigmatism in 77 per cent; myopia, myopic astigmatism, or mixed astigmatism in 21·7 per cent; and emmetropia in 1·3 per cent. These percentages bear a very close correspondence to those found in the 4,315 patients, of all ages, who attended the Glasgow Eye Infirmary complaining of asthenopia during the year 1899, and in whom the following refractive errors were treated:—Hypermetropia or hypermetropic astigmatism, 72 per cent; myopia, myopic astigmatism, or mixed astigmatism, 23·5 per cent; presbyopia, 4·5 per cent. In Jackson's cases the greatest proportion of the hypermetropia and hypermetropic astigmatism was of low degree, 62 per cent showing an error of 1·50 dioptres or less. This result is in accordance with the general finding of all ophthalmic surgeons, namely, that the great proportion of ametropia takes the form of low grades of hypermetropia or hypermetropic astigmatism.

Hypermetropia is essentially a congenital defect, and due chiefly to a relative shortening of the antero-posterior axis of the eyeball. In hypermetropia parallel rays of light are brought to a focus, not on the retina, but behind it; the eye is under-focused, and to bring distinct images on the retina extra and continuous effort is called for, the ciliary muscle gets no rest, and, in many cases, discomfort and fatigue come on from over-use. While hypermetropes with high degrees of H., as a rule, are likely to be satisfied with indistinct vision, and do not suffer to the same extent from eye-strain as low hypermetropes, still, if a high error is combined with astigmatism, and all the more if a low error is so associated, eye-strain may early develop. It is also apt to come on if a high grade hypermetrope attempts to increase the size of his retinal images by bringing the object looked at very close to the eyes, so as to be able to make more out of the larger diffusion circles. This is a specially frequent assisting cause in young children, who, from the fact that they hold their work very close, are often thought by their parents to be short-sighted. It is essentially in the lower grades of hypermetropia, however, that symptoms of eye-strain are most likely to begin; because in these, the errors to overcome being moderate, there is a greater incentive to effort in order to see clearly. In the standard eye accommodation and convergence act in close association. If the eyes fix an object 50 cm. distant the fixation lines converge towards that point, 2 metre angles of convergence being used to effect the change in direction. At the same time the eyes accommodate for 50 cm., exercising 2 D of accommodation. In the presence of hypermetropia, the eyes require to accommodate in excess of the amount stated by an amount sufficient to overcome the hypermetropic error, while to see distinctly and binocularly the convergence should remain unchanged. The dissociation of these two closely associated functions is specially difficult in children where, ordinarily, accommodation and convergence are exerted together in equal amount. With hypermetropia present, we find that work can only be done by one of two conditions coming into play. Either the eyes continue to converge for the given distance, and the vision remains indistinct to some extent on account of the eyes not accommodating fully, or the eyes accommodate fully to overcome the hypermetropic error and the required distance, and, to retain distinct vision, the convergence excess which accompanies the increased accommodation is taken up by one of the eyes, which squints inward, leaving the other to fix the object. As the tendency to secure distinctness of vision is greatest in the low grade errors, we find that squint does not occur most frequently in the high grade hypermetropes, but in the lower grades, where the hypermetropia is capable of being overcome by a persistent effort of the accommodation; and it is in these cases, too, that we are apt to find eye-strain, from the presence of latent errors of muscular balance appearing when the difference between the amount of the accommodation and convergence necessary is small, and not sufficient to overthrow the unconscious tendency to binocular fusion. But in young children this fusion desire, or, as it has been called, "this abhorrence of double images," is not difficult to overcome, because the perfection of binocular vision is an acquired function, and develops with increase of years and training; and so in young hypermetropes squint occurs very readily, and all the more readily if the value of binocular vision is lessened by any inequality in the visual acuteness of the two eyes, either arising from a congenital amblyopia in one eye, or from a difference in the refraction of the two. Very small differences of refraction are specially liable to give rise to eye-strain and squint in children, and it becomes very important, in the optical correction of hypermetropia associated with strabismus, to accurately correct the error in each eye, so as to get the best visual acuteness in each, and in that way bring about the greatest stimulation to binocular vision.

Astigmatism as an error of refraction must, of course, either take the form of a H. or a M. Unlike the typical forms of M. or H., which are due to a compartive lengthening or shortening of the antero-posterior axis of the eyeball, astigmatism is always a curvature ametropia. In most cases the fault depends on an inequality of curvature of the cornea, and a very small difference in the radii of curvature of the principal meridians gives rise to a considerable astigmatic error, a difference of 1 mm. accounting for a corneal astigmatism of 5·50 D.

The lens is also frequently astigmatic to a slight degree, but most frequently in the opposite direction to the corneal astigmatism, so that the total astigmatism is in that way lessened. The astigmatism met with in children is in the great majority of cases congenital, and, if high, is often associated with other developmental defects which leave the eye, even when properly corrected, amblyopic to some extent. Besides the ordinary congenital form of astigmatism, a very high degree of astigmatism is occasionally met with when the lens is congenitally tilted or subluxated, and in children an acquired astigmatism "against the rule" sometimes develops with the change in the type of face accompanying the growth of post-nasal adenoids. Although we occasionally meet with very high degrees of astigmatism, low degrees are by far the most common, and those low degrees very readily lead to eye-strain owing to the continuous attempt to overcome the error by accommodating. It has been stated that eye-strain arises in these cases through unequal contraction, or partial spasm, of the ciliary muscle. This partial spasm is supposed to relax the tension of the suspensory ligament of the lens in one meridian more than another, in that way creating a lenticular astigmatism which tends to neutralise that of the eye, and so bring about greater distinctness of vision. Another probable explanation to account for the rapid tiring of the ciliary muscle is, not partial and persistent spasm, but an ever-changing degree of contraction as the muscle alternately accommodates for the meridians of greater and less refraction. In regular astigmatism the principal meridians are always at right angles to one another, and in the form most commonly met with the principal meridians run vertically and horizontally, with the meridian of greatest curvature in the vertical. This is spoken of as astigmatism "with the rule." But the principal meridians of the astigmatism may run at any angle to the vertical and horizontal meridians of the cornea, and, although every case is important from the fact that astigmatism is a very potent factor in the causation of eye-strain, those cases in which the principal meridians run obliquely are specially liable to give rise to early symptoms.

It is in these oblique forms, too, that you are most likely to meet with headache as a symptom, although ocular headache is not a frequent complaint of young children.

While hypermetropia and astigmatism are almost invariably congenital defects, myopia, on the other hand, is nearly always acquired. Attending the growth and development of a child we find that the higher degrees of H. tend to become lower, and that those of lower grade at birth gradually, as age increases, approximate the emmetropic or standard refraction; while, in the presence of unfavourable conditions, a certain proportion do not rest there, but pass on into a condition of M.

Rarely is M. present in newborn children, the usual time of onset being shortly after school age is reached. Children who develop a myopic refraction must, therefore, be recruited from those who were formerly hypermetropic; and as M. is an error associated with grave danger to the eyesight, the question of attending to symptoms of eye-strain early becomes very important from the point of view of preventing the onset of M.

Some observers have held that the change to a myopic refraction is to be looked upon as the result of a process of natural evolution, and have founded their belief on the fact that the requirements of modern life—all tending as they do in the direction of increased near work—make the persistence of H. a serious handicap to the easy continuance of such work. Popularly, too, a near-sighted eye is often looked upon as a strong eye. We often hear stress laid on the strength of vision of a person, far advanced in years, who is still able to read fine print without glasses. We have to remember, however, that a myopic refraction is not universal amongst people who use their eyes almost constantly for near work; and, before we can accept the conclusion that the myopic eye is one that has undergone "an adaptation appropriate to the act of work," it would be absolutely necessary to prove that the increase in the refraction of the eye is a physiological increase, and not associated with pathological changes.

Now, the facts all point the other way; for while some low grades of myopia become stationary, and remain stationary throughout after life without any marked symptoms of discomfort or apparent fundus change, the cases are exceptional whose only complaint is impairment of distant vision. It usually happens that changes of refraction are associated with advancing changes in the fundus, which, while rendering vision always very defective, also give rise to greater or less discomfort, and can only be looked upon as pathological. From published statistics of a large number of cases examined, only 5 per cent of myopes showed no pathological changes in the posterior half of the eyeball; while 34 per cent presented a degree of change which not only interfered with good vision for the grade of myopia, but might, at any moment, lead on to dangerous complications involving complete loss of sight. We cannot, therefore, look upon the myopic eye as otherwise than always a defective eye, and, in the majority of cases, an essentially diseased eye.

Now, while excessive near work is undoubtedly an immediate cause of eye-strain, near work alone, even when very excessive, is not sufficient to account for the onset of all myopia. This is evident from the fact that, while the percentage of people with myopic refraction is considerable, it includes only a very small proportion of those people who constantly, and almost continuously, use their eyes for near work. The other causes closely associated with near work in its development are defects in the eye itself, or in the conditions of work which make such work specially difficult. There are several congenital defects which may have a very distinct influence in hastening the onset of a myopic refraction. The greater or less separation of the orbital cavities and eyeballs, which we meet with among peoples of different nationalities, is important because of the varying interocular distance it gives rise to; and this has a very distinct influence on the easy or difficult exercise of the act of convergence. A more important part is played, however, by heredity, in perpetuating certain congenital anomalies in the anatomical structure of the eyeballs. Of these, inherent weakness in the ocular tunics, specially the sclera, and differences of curvature in the corneal meridians, are most important. A weakened sclera allows of bulging of the eyeball from even normal intra-ocular pressure, and in the presence of excessive convergence, which raises the intra-ocular pressure slightly, through the compressing action of the extra-ocular muscles which are brought into action or put on the stretch, these frequently repeated, although minute, increases are, like the continual dropping of water on a stone, bound in time to make an impression and manifest their destructive influence.

Astigmatism is the type of error which seems specially likely to favour the development of myopia, through the special eye-strain and associated congestive and inflammatory changes it gives rise to; and that this is so is borne out by the fact that, on careful examination, the great majority of myopic eyes reveal an astigmatism of greater or less degree. In this connection, Dr. Risley, of Philadelphia, writes that "astigmatism is to be found in 90 per cent of myopic eyes if it is looked for;" and of its importance as a factor in the causation of myopia says, "my own cases, without exception, passed from the hypermetropic eye over into the near-sighted through the turnstile of astigmatism."

Another condition which may play a much larger part in the development of myopia than it at present is credited with is the length of the intra-orbital portion of the optic nerve. Normally, the optic nerve from its entrance into the orbit through the optic foramen runs a curved course to the back of the sclera, the sigmoid bend allowing the eye to move freely without any dragging on the sclerotic; if there should be any congenital shortening of the nerve, then convergence would not only be more difficult, but would be associated with a certain degree of dragging on the posterior pole of the eyeball owing to the anchoring action of the shortened optic nerve. It is a well known fact that the fundus appearances in myopia suggest such a dragging. This, however, cannot be a common cause, but in a structure which in the adult measures 24 mm., a very slight shortening of the nerve in a child with a weakened sclera would be likely to favour the pulling out of the posterior pole of the eyeball.

As soon as the changes in the direction of myopia begin, they, if untreated, always show a tendency to further progress, as the difficulties attending the act of convergence go on increasing with the lengthening of the eyeball. A vicious circle is thus established which carries on low grade myopes steadily towards the higher.

When the eye history of a group of children is followed through a number of years, it is found that while in the early school years the percentage of myopes is small, in after years not only does the percentage of myopes increase, but the degree of myopia present becomes higher, along with a corresponding lowering of the visual power and a progressive increase in the fundus changes. Cohn, of Breslau, who was one of the earliest, as he has been one of the chief workers on this subject, gives statistics of this increase, as found in the different grades of German town schools. His figures show that while in elementary schools the percentage of myopes is 6·7; in middle schools it is 10·3; in high schools, 19·7; in gymnasia, 26·2; and 59·5 in the universities. He concludes his observations on this point with the statement that "in the whole civilised world, the number of shortsighted scholars increases with the requirements of the school and the rank of the class."

Squint too often occurs with myopia, but it is exceptional to find it in the early years, and when present it is rarely other than a divergent strabismus. This squint comes on generally after the myopia has reached a high degree, and is due to a large extent to the difficulty in keeping up a proper convergence.

Myopia, then, is essentially a condition which arises during the period of school life, and is the goal towards which all early eye-strain leads, and its onset is rendered all the more easy in the presence of any congenital defects in the anatomical structure of the eyes.

If the care of the eyesight of young children had its true position of importance assigned to it by our educational authorities, the treatment of eye-strain would be mainly preventive, for those cases which presented errors of refraction likely to bring about eye-strain would then have this onset anticipated by early treatment. Unfortunately we are a long distance short of this ideal, and at present it is even rare to get hold of cases in the early days of declared eye-strain.

Theoretically, all ametropes should have the proper optical correction to bring them into line with the emmetropic standard, but practically this does not hold good. In practice, an eye may be looked upon as normal when its tissues are healthy, and when it has a refraction which gives, under the requirements to which it is subjected, distinct vision without injurious muscular effort. Such an eye is not necessarily emmetropic, and many ametropes in their early years are able to get along comfortably without glasses, but the ability to do this, even in absolute health, is very variable. Whenever the eyes are subjected to conditions of work which convert ordinary wear into tear, the eye functions become faulty, eye-work is performed by painful effort, and eye-strain develops. Then treatment should step in to remove or relieve the causes of disturbance. The first essential condition to initiate a correct method of treatment against declared eye-strain is a thorough examination of the visual apparatus. This can only be satisfactorily done by paralysing the iris and ciliary muscle by a cycloplegic, like atropine or scopolamine. This step has several advantages. It causes dilatation of the pupil, and allows a thorough examination of the fundus to be made; it overcomes any existent spasm of the accommodation, which is present with special frequency in children; it arrests eye-strain while the action of the drug is kept up, and this rest has its importance in allaying and checking any retino-choroidal disturbance; and, most important of all, it enables the absolute static refraction of the eye to be determined. Any other result in children is absolutely useless, for subjective methods of examination have a very limited range of application in estimating the refraction of children; more often we have to depend entirely on the results of the different objective methods. It is for this reason that the prescribing of glasses for children should never be left in the hands of an optician. To my mind, the prescribing optician, even when he confines his attention to adults of more or less intelligence, is quite as great an evil as the prescribing chemist, but in the case of children he is to be specially shunned. For while in the majority of cases of impaired sight in children it is certainly possible to get improved vision by glasses, at the particular time of the examination it is not always expedient to order them, owing to the presence of active structural changes, sometimes very slight, in the eye background; and it must always be remembered that the treatment of eye-strain is something more than the optical correction of any ametropia. It must take into account not merely the attempted relief of impaired vision; the whole well-being of the visual apparatus has to be considered, so as to bring about where possible harmonious binocular vision and a capacity for useful work, while at the same time the development of any morbid change has to be warded off, or its further deleterious influence, when already present, prevented.

The results of the examinations of the eyes and the symptoms previously present have all to be carefully considered before deciding on the proper treatment of any case. If glasses can be ordered, then the proper correction is one which will enable the eyes to perform their work under favourable conditions, with a feeling of relief and without any further symptoms of discomfort. Each case requiring optical correction has to be considered on its merits. There is no absolute hard and fast rules to be observed in the correction of these cases, but this may be said, that the weight of opinion is tending more and more in the direction of always ordering in children the full correction. While with the hypermetropic and myopic element exceptions to this practice are often met with, there is no exception against ordering for children the full astigmatic correction, and the full correction of hypermetropia when associated with squint, and often, too, in these cases it is necessary to keep up the action of the cycloplegic, after the glasses are being worn, long enough to absolutely overcome any tendency to the persistence of ciliary spasm. It must also never be forgotten that a proper fitting frame, and an accurate centering of the lenses, both horizontally and vertically, are of as pressing importance to after comfort as the right strength of lens.

Latent muscular errors do not play such a large part, and are not so common in the ocular defects of children as in adults, for, as a rule, increasing age is a factor in their causation. Nevertheless, although heterophoria is not frequent, it is occasionally met with, and it is important to establish, when the child is old enough to give satisfactory and reliable answers, the presence of orthophoria or the reverse; for, if any heterophoric error be neglected, the possibility of eye-strain persisting is probable, no matter how thoroughly the glasses correct the ametropia.

If a manifest muscular error, which is usually a convergent strabismus, persists after a child has been kept under atropine for some months, while wearing the full optical correction, then the question of operative interference has to be considered. In such cases advancement is the proper course to adopt. Formerly it was advised to wait till a child had reached the age of 8 years at least, and then perform tenotomy; but as it is important to establish muscular balance at as early a date as possible, such delay in having recourse to operative treatment is a mistake. The objection to early tenotomy was that the after effect of the operation could not be accurately foreseen, and one often found in after years a divergence from over-correction. This objection does not appear to hold good in the case of early advancement.

In young children the eye and other organs, during their progress towards fuller development, do not present the same resisting power to adverse influences as in later life, and it is in dealing with children that the precautions to be taken to ward off the onset of eye-strain should be enforced with special activity, although the same necessity for these precautions holds equally good all through life.

We must remember that an eye which is practically emmetropic to begin with, or an eye whose refractive error has been corrected, is still liable to strain, if the conditions surrounding the act of work are unfavourable, or if the work to be done is excessive. There are certain well recognised measures for assisting in the gaining of good visual acuteness, which can, and should be, universally adopted, and whose carrying out does not involve any extra labour on those who have to do with the management of children during the period of school life. Of first importance is the necessity for a sufficient light supply. In towns this is often a source of difficulty, owing to the crowding together of the houses and the heights to which these reach. On this point Javal states that it is impossible to get sufficient lighting of rooms on the ground floor, unless the distance away of any surrounding building be equal to twice its height. We know that work in defective light can only be done by great effort, as the defective light compels us, in order to secure a larger retinal image, to bring the work close to our eyes, in that way overtaxing the accommodation and convergence. Diffuse daylight is undoubtedly the best source of light supply, and while incandescent electric light comes nearest daylight, in so far as it gives a fairly steady illumination, is comparatively devoid of heat, and does not contaminate the atmosphere, it can in no sense be said to rival daylight as an illuminant. But while good illumination, which the most recent writers on school hygiene state can only be got when the proportion of window space to floor space never falls below 1 to 5, is of first importance, it is as important to have the light properly directed. The ideal method of lighting any building is by daylight from the roof; but as this would entail the necessity for one-storey buildings it is impracticable. Even if it were possible, there would be the added difficulties that such buildings are apt to be too warm in summer and impossible to heat up in winter. Under the actual existing conditions as to buildings, we find that the best light supply is obtained when the source of light is situated to the left, above and slightly behind the worker. With the light in this position the shadows are cast away from the point straight in front to which the gaze is directed, and the source of light being behind, it cannot bring about any uncomfortable dazzling. The position of the source of light is further important, because it should have a very distinct bearing on the arrangement of the desks and seats for the pupils in schools. While the actual position of the desks and seats is important for their proper illumination, their height also demands equal attention from the fact that any want of proportion between a scholar and his desk inevitably leads to faulty posture while at work, and this faulty posture is not only likely to have an injurious influence on the eyesight, but may be a fruitful source of other complaints, especially those associated with lateral spinal curvature. "A bad posture while engaged in school work," Snellen says, "means a want of care in the construction of school furniture, and is a principal fault in bringing about the increase of myopia during school life." A correct posture necessitates a comparatively upright position, with the head fairly erect, and at a sufficient distance from the desk either while writing or reading. The question of posture is important with reference to the styles of writing taught in schools. The vertical writing now taught in schools is to be infinitely preferred to the old style of sloped writing. In vertical writing there is a distinct inclination to sit erect with the work straight in front, while in oblique writing the copybook is placed, to begin with, to the right of the middle line, so that the eyes require to look obliquely, and, as the work continues, the body gradually falls forward with a lowering of the head and the assumption of a very unnatural posture. You must all have seen this position assumed by young children. The head rests almost on the left fore-arm, and the strain and discomfort attending the position may easily be tested by laying a book in the place of the copy, and attempting to read for any time. Indeed, so strongly impressed are some authors with the evils following on the bad posture likely to be assumed by children writing in this style, that one writer says, "we allow our children to grow crooked, in order that their handwriting may be nicely slanted," while another has published a pamphlet entitled, "Why the teaching of sloping writing should be made an offence punishable by law."

Eye-strain may also be hastened on if the books used are badly printed, either as regards paper or type. To be seen at the proper distance objects must subtend a minimum angle of 5 minutes, and the individual lines of which an object, such as a printed letter, is composed, must subtend an angle of

1 minute. But to see comfortably, it is impossible to work for any length of time at this minimum. Now, a great mass of the cheap publications of the present day does not allow a sufficient margin of excess over this standard, and, in addition, the paper is often bad; and this class of literature, no doubt, plays its part in the injury to the eyesight of our young people. The minimum size of type for school books should have its letters of a vertical height of 1·5 mm., and as important as the actual vertical height is a proper spacing between the letters and leading between the lines. Proper attention to these details makes reading immeasurably more easy. Often, too, complaints of eye-strain come on after a child commences music lessons. Here the difficulty arises from the same cause, as music is often printed far too small, so that there is not only great difficulty in distinguishing sharps from flats, but the child has continually to strain while reading the notes, and especially those on the ledger lines above and below the stave. In girls, the sewing lesson is a common reason given for the child's complaint; and in all standards the requirements of the Education Department are far too exacting for the age of the child, and are almost certain to throw an unnecessary strain on the eyesight.

While good light and a suitable size of object make work much easier, the amount of work to be done at the near point has a very special bearing on the production of eye-strain. The physical health and vigour also influence in a very marked way the amount of near work a child is capable of accomplishing. We all know that anyone convalescing from an illness, or run down in health, is more liable to asthenopic symptoms than a person in robust health, since the ciliary muscle is bound to share in the general muscular weakness. It is, therefore, very important to limit the amount of near work in children whose health is below par, otherwise symptoms of eye-strain are bound to appear. We also know that the onset of puberty, especially in girls, is associated with changes which, in many children, for the time being, diminish the resisting power of the body; and we find that among girls, between the ages of 11 and 14, the strain of school work is specially apt to exercise a trying and often injurious influence, and that the liability to eye-strain is increased. It is a generally accepted fact that people living continuously in the country have a much less tendency to eye-strain and shortsight than town dwellers. This difference begins to be evident in early school life, and although probably due to several causes, one of these undoubtedly is that country dwellers have more abundant opportunity of completely relaxing their accommodation by looking at far distant objects. In support of this view, we have Sir Redvers Buller's statement that, in the early months of the present war, the average Boer—who is essentially a country dweller—had a range of accurate distant vision at least 2 miles greater than that of the average British soldier; and we know that our forefathers, who had little or no absolute near work to do, began life as hypermetropes, and so continued to the end. Their distant vision was not limited by the walls of the houses on the opposite side of the street, as it is to-day in towns, and they had no demand for that continued near work which marks the round of our daily task, either as children or adults. Shortsight was rarely met with in them, and at the present time this still holds good among savage and semi-civilised tribes, and among wild animals. In these the tendency to short sight, which is often said to be an attribute of culture, would be a serious defect and a handicap. Now, the state of our civilisation being what it is, we could not, if we would, retrograde to the time when the conditions of life were such that little near work was necessary; but when we know the possibilities for evil of an excess of near work, we should take every means to safeguard ourselves, and specially our children, since we know that in these the onset of difficulties, which the greater resistance of the adult wards off to some extent, is most likely to occur. The obvious lesson from all these facts is, that near work should not begin too early, and that it should always be rigidly limited in amount. Children should not enter upon their educational training at a too early age, and during the first years at school the instruction should be so arranged that the minimum of near work requires to be done—the greater part of the time in school being occupied by oral instruction, with or without the use of a distant blackboard. The time in school should also be frequently broken by periods of exercise in the open air. The importance of plenty out-door exercise in growing children cannot be over-estimated. A cultured mind can be gained at the expense of a physically weak body; and, if there be any truth in the doctrine of the survival of the fittest in our pushing time, then during the educational life of a child, physical exercise must ever hold a high place.

All through school life these frequent intervals of rest between the lessons demanding work at the near point should be kept up; and these short rests, besides being beneficial to the eyes of the scholar, further pay through the increased attention able to be given to the work of the next lesson.

The number of home lessons given to children, even of tender years, seems to me one very prominent blot on our educational system. Taking into account the number of hours spent in school, there is an absolute necessity for very strictly limiting and carefully supervising the work to be prepared and the exercises to be done after school hours. Even the attempt to get over this difficulty which some schools make, by issuing time tables for the preparation of home work, is not likely to prove satisfactory owing to the fact that, without the intelligent assistance of parents, it is impossible to control the hygienic factor, and very specially the light supply which, in the great majority of cases, at least during the winter months, must be conspicuous by its insufficiency. Altogether, then, there is urgent need for reform, both in the amount of time spent over near work in schools, and very urgent need for reform in the present system of home lessons and their preparation. In this matter Britain lags behind. Other nations have long recognised the importance of reducing the compulsory near work of children to a minimum.

But although we had in play all the preventative measures already discussed—if it be true that congenital anomalies of refraction play a large part in bringing about eye-strain and this change in the static refraction of the eye—then, to get the best results, we must begin our preventative treatment on the very threshold of school life. It will be necessary to systematically examine into the visual condition of all children immediately on entering school. This has been already done to some extent in several Continental countries, in America, and in a small number of English schools, and, if the practice were universal, it would undoubtedly be followed by the best results; for, where it has already been carried out for some years, the degree of success attending the practice has been most encouraging. A preliminary examination would not be difficult, and its carrying out needs no special training. In the English schools referred to, it is taken in hand by one of the teachers. Two sets of test-types are necessary—one for distant vision and one for near. The distant card may either have letters for the test objects, or, for very young children, dots, or pictures of familiar objects of the standard size. The distance test-card is hung up on a wall, in a suitable light, and the scholar, stationed at

6 metres or 20 feet, is then asked to name the smallest letters or test-objects which he can correctly see with each eye separately. For the test of near vision a small card, with clearly-printed type (Jaegar 1, which printers call diamond type), and a foot rule, are needed. This near-test can only be attempted after a child is able to read or spell well. The nearest point at which the printed matter can be read clearly is then determined, and the distance of the type from the eyes gives the near-point of accommodation. The position of this, of course, varies with the refraction and the age of the child. Any anomaly is evident on comparing the result obtained with the near-point of emmetropia at the same age. Another method of making a preliminary examination by teachers in schools, and which is probably preferable for very young children, has lately been introduced by Mr. Bullar, ophthalmic surgeon to the Free Eye Hospital, Southampton, and consists of two tests, both of which are conducted with distant types. Test 1 ascertains the unaided distant vision, each eye being taken separately, and is similar to, and carried out in, the same way as the test with the distant types already given. This test excludes all important defects, except hypermetropia, which is controlled by the near-vision test already given, or by Test 2 of Mr. Bullar. In Mr. Bullar's second test the child is again made to read the test-types while wearing convex spherical glasses of 1·50 D. If the answers to this second test show that distant vision is improved, or remains as good, with the glasses on, then the child must at least be hypermetropic. Either of these methods of examination would at once detect all those children who had any considerable error of refraction, and also any children with defective vision arising from disease of the eye structures, such as opacities in the refractive media or serious pathological changes in the fundus. In Glasgow, while, so far as I know, there is no attempt made at any systematic examination into the state of the eyesight of the children at any school, teachers are becoming more and more alive to the necessity of having any complaint of defective sight in their pupils investigated, and year by year we have greater numbers of children coming up for examination, who have been sent by their teacher for advice. The practice in the schools in which this examination is already held is, not only to make an entrance examination, but a yearly examination. Accurate records of the visual acuteness from year to year are kept, and notification sent at once to the parents of those children whose sight falls below a certain standard,

or whose sight has deteriorated in any way between the yearly examinations. This would be a good method of practice to follow. Until we have such a method of examination in universal use, what we have now clearly to recognise is the fact that declared eye-strain can be, to a large extent, banished by appropriate and early treatment. Parents must be taught their responsibility in this matter. They must learn to attend at once to complaints of defective sight in their children, and exercise the necessary supervision over them while engaged at home lessons or other near work. Teachers and school authorities must recognise that they can render great assistance in this work by making sure that the conditions associated with school work are the best. We ourselves must learn to recognise more fully the importance of not being so ready to lightly brush aside the ocular complaints of children. If parents, teachers, and doctors joined together in furthering this work, the results would early show a very manifest improvement in the average eyesight of children. If we believe—and the gradual but sure increase in the percentage of myopia from childhood all through the school period, and till adult life is reached, helps to convince us of its truth—that eye-strain tends ultimately to the development of myopia, with its defective vision and possible fundus changes, then the lessening of such an injurious influence is surely a result worth striving to attain; for, by such prevention, we would widen the outlook, in its fullest meaning, of an immense mass of people, and would render them more fit to play their part in the work of the nation. That this improvement can be brought about has already been clearly demonstrated, and we are forced to recognise that it is true, that if, at the beginning of school life, congenital anomalies of refraction are carefully corrected, and all the best hygienic conditions brought into play during the school period, there follows not only a very great lessening of the complaints of eye-strain, but a great diminution in the total number of people with shortsight, and also a lowering of the grade of myopia met with; and, as a further result of such early preventative treatment, we would undoubtedly save from such a fate a certain proportion of those cases which at present pass on to myopia of a high grade, and inevitably terminate in premature blindness.

ON THE USEFULNESS OF THE TERM, FUNCTIONAL INERTIA OF PROTOPLASM.[1]

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WE have, as biologists, been so much impressed by the universality of that property of living protoplasm, irritability or affectability, the power of responding to a stimulus, that it is just possible we have underestimated a property—no doubt, of less importance, but still of interest—which I venture to call functional inertia. Functional inertia is that property of protoplasm whereby it contrives to remain in a functional *status quo ante*, notwithstanding that it *has* received a stimulus, or, having responded to the stimulus, it continues to exhibit its functional activity for a certain time after the stimulus, as a form of energy, has ceased to exist. I believe it would be a useful and convenient term.

In physical terminology there are two kinds of inertia, itself a "property" of matter—(*a*) the inertia of matter at rest, and (*b*) the inertia of matter in motion.

Thus, by reason of its inertia—of rest—we find it difficult to move a massive gate, swung even on hinges of relatively small friction; there is not, in other words, an instantaneous response in the way of the gate moving when we give it a push. On the other hand, once the great gate has been set swinging, it will move through a considerable angle after we have ceased to push it; this is due to its inertia of motion.

Living protoplasm furnishes us with examples of an inertia which might be called that of function. First, the functional inertia of resting protoplasm.

This is the property of protoplasm which, being at rest—in the anabolic phase of metabolism—cannot be instantaneously caused to "change that state," *i.e.*, respond to a stimulus, the property in fact, that underlies the familiar period of latency—the time that must elapse between the moment of the application of the stimulus and the sensible demonstration by the protoplasm of its affectability. Thus, all cases of latency of function come under this heading. The true latent period of muscular response, the latent period of vagus inhibition of the heart, the much longer latent period of stimulation of cardiac accelerators, the latent period of secretion of the gastric glands (5′ to 6′)[1] and of the pancreas (15″ to 3′) after stimulation of their respective secreto-motor vagal fibres.[2]

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[1] An abstract of this paper was read at the Ipswich meeting of the British Medical Association, August, 1900.

Of course, the time occupied by the travelling of an impulse due to stimulus—*e.g.*, in a nerve—is not a case of functional inertia. Thus, reflex-time, reaction-time, time of spinal or of cerebral delay, are not, as such in their totality, cases of functional inertia, though functional inertia may be a factor entering into their components; but it is functional inertia that causes the delay, after the stimulus has travelled to the given tissue, before the tissue begins to act in its own specific manner. Take, as typical of the functional inertia of rest of protoplasm, the relatively long time elapsing between stimulation of the vagus and a flow of pancreatic juice (15″ to 3′). As a term, functional inertia seems convenient to express the undoubted non-instantaneousness of metabolic response to a stimulus capable of eliciting functional activity in protoplasm; and it differs in degree in different tissues; or, in other words, the functional inertia of pancreatic protoplasm at rest is very much greater than that of muscular. The functional inertia of rest of pancreatic protoplasm is strikingly exemplified in the very long time (hours) that elapses after anæmia of the gland before the secretion flows again on stimulation (Pawlow, *Du Bois Archiv.*, 1893, supplement). The functional inertia of rest of non-striated muscle is somewhat greater than that of heart-muscle, and very much greater than that of skeletal muscle.

The very variety of muscle which takes the longest time to have its activity brought out—longest latent period—is the one that "acts" for longest after the stimulus is withdrawn, is alive longest after blood-supply has ceased. Great inertia of rest in this case involves great inertia of movement, to which we may now turn.

Examples of that *functional* inertia which corresponds to the inertia of moving matter, the inertia that makes the wheel rotate long after you have ceased to spin it, are numerous.

First, there is the familiar nerve-muscle preparation, which "acts" after being separated from its nutrient blood and lymph, the isolated—excised—bloodless heart of frog beating on a glass plate, the isolated nerve as in the experiments of

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[1] Pawlow, J. P., "Die Innervation der Magendrüsen beim Hunde," *Du Bois Archiv.*, 1895, p. 53.

[2] Pawlow, J. P., "Innervation der Bauchspeicheldrüse," *Du Bois Archiv.*, 1893, supplement.

Waller and in those of Gotch, the growth of hairs after death of body, *post-mortem* peristaltic movements, are all cases of functional inertia—of katabolic inertia—activity after primary source of energy is withdrawn. The relatively long display of cardiac acceleration after stimulus to the cardio-accelerator nerve is withdrawn, is a case of katabolic inertia.

Though perhaps the more usual order of exhibition of the functional inertias is (1) of rest, and (2) of movement, the reverse is the case where the phenomenon in question is itself the inhibition of activity.

Take the case of inhibition of intestinal movements upon stimulation of the splanchnic nerve.[1] There is here a latent period of inhibition of about 18″, while, after the stimulus is withdrawn, the phenomenon (relaxation of the muscles) persists for some time (about 25″), a period of *post*-stimulant inhibition.

Here, then, the phenomenon being one of inhibition, is preceded by a period of katabolic functional inertia, and succeeded by one of anabolic functional inertia. In certain cases, well known to physiologists, the time value of the period of the functional inertia ushering in the phenomena is frequently almost exactly equal to that of the inertia concluding it. Thus, just as protoplasm at rest exhibits, on stimulation inducing activity, the functional inertia of anabolism, and having become active, exhibits, on cessation of the stimulus, the (*post*-stimulant) functional inertia of katabolism; so, in like manner, protoplasm in activity, exhibits, on stimulation inducing inhibition, the functional inertia of katabolism, and, having become inhibited, exhibits, on cessation of stimulation, the (*post*-stimulant) functional inertia of anabolism.

Just as you cannot instantaneously start the great door swinging, so you cannot instantaneously stop the great door in its swing, you can but "slow it up," *i.e.*, it keeps moving after the arresting effort has begun.

[The cases of organs with defibrinated blood perfused through them still performing their functions, are, of course, not cases of this, because here their metabolism is being constantly supported by nourishment applied under altered (artificial) conditions.]

All these cases, however, so insisted on by Heidenhain, of organs and tissues continuing to perform functions after blood-supply has been cut off, are cases of functional—katabolic—inertia, *e.g.*, glands secreting either in complete absence of blood or with extreme vaso-constriction—they continue to secrete in virtue of the molecular mobility impressed upon them potentially by previous anabolism, they continue to exhibit the potentiality for molecular vibration—function—after the source of that potentiality is withdrawn; this is functional inertia. Thus, pure secreto-motor effects, *i.e.*, apart from the usually concomitant vasomotor effects, can only be called forth because protoplasm possesses functional inertia of activity; the secretion cannot be definitely kept up; it is dependent, as all function is, on blood-supply; its apparent independence is only temporary; it is due to its inertia.

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[1] *Text-Book of Physiology*, by British authors, vol. ii, p. 333.

Other cases of functional activity in avascular or post-vascular conditions will occur to one. For example, the power which protoplasm, deprived of blood, possesses of reducing (deoxidising) pigments, &c., *e.g.*, methylene blue, ferric ferrocyanide, brought within its sphere of influence, is a case of katabolic inertia; the "animal" is dead, the protoplasm has functional inertia; all examples of *post-mortem* manufacturing of enzymes, of animal heat, &c., would come under this category.

The respiratory centres, although deprived of blood, continue to emit impulses for some time after the establishment of the anæmia. This is katabolic inertia. By the functional inertia of hepatic protoplasm, the liver, after not only death of the body, but complete suppression of the hepatic circulation, continues to transform glycogen to dextrose. Katabolic functional inertia of protoplasm is exhibited by the portion of the unicellular organism deprived of its nucleus—Verworn's experiments.[1] It will ultimately die, but *for a time*[2] it continues to move—to live—just as the heavy wheel continues to rotate for a considerable time after the force which set it spinning has ceased to act.

Functional inertia expresses itself in a slightly different manner in those cases in which an apparently single stimulus gives rise, not to one result, but to a series of effects, just as when by a single tap we set a jelly vibrating, it will continue by its inertia to oscillate for some time afterwards.

For instance, Ritter's tetanus, due to the sudden return to normal from a hyponormal state of excitability in a nerve, is a case of apparent single stimulus causing an incomplete tetanus, a series of effects maintained by the functional inertia of katabolism. Again, the (Wundt's) tetanus that may arise from the sudden increase of a constant current is a case of the same phenomenon, a single stimulus outlived by a relatively long-maintained series of effects. Closely allied to these are the cases of tetanus following chemical and thermal stimuli, a single application resulting in a series of phenomena—a post-stimulant, rhythmic activity; this *is* functional inertia.

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[1] Verworn, *General Physiology*, 1899.

[2] "A day" in the case of lacrymaria olor, p. 570.

Functional inertia may express itself in the maintenance of a certain rhythm of discharge of impulses, as Horsley and Schäfer brought out in their experiments upon the normal rate of discharge of cells of the spinal cord. They showed that whatever was the rhythm of stimulation—provided it was 10 to 12 per second *or more*—artificially imposed upon the nerve tracts proximal to the cells, the rhythm of discharge was always 10 per second, *not more.*[1]

Here we have functional inertia expressing itself in the maintenance of a certain inherent rhythm of discharge of impulses;[2] no artificial rate of stimulation will accelerate the rhythm of discharge, provided the stimulation be below a certain intensity; the protoplasm of these cells has *its* refractory period or interval of "physiological insusceptibility." Its molecular swing is its own, you cannot accelerate it; this is functional inertia, the rhythmical expression of it.

The phenomenon of "refractory period" in the heart's action may evidently be placed in the category of "physiological insusceptibilities." The cardiac myoplasm in systole has put forth its maximal effort, and is therefore "insusceptible" to any stimulus tending to call forth greater activity, but this condition can also be expressed by saying that at the commencement of systole the katabolic inertia is very great, indeed "infinite" as regards stimuli tending to produce greater activity.

Turning now to examples in which the functional inertia involves consciousness as a factor, we have an excellent example of inertia of katabolism in the positive after-image—the retino-cerebral and conscious effect outliving the time of application of the stimulus—post-stimulant retinal functional activity, in short. This is the forward oscillating of the jelly after you have ceased to tap it, but there is the backward swing too. There is the phase of the reconstitution of the affectable material whose psychic counterpart is the negative after-image; this is anabolic functional inertia.

It is to this very property of functional inertia in retino-cerebral protoplasm that the beautiful modern illusions of movement are due in the devices known as kinematograph

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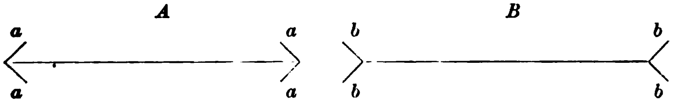
[1] Horsley and Schäfer, *Journal of Physiology*, vol. vii.

[2] Strychnine tetanus elicited by a single stimulus is another example.

(biograph, mutoscope, &c.); the stimuli, namely, illuminated instantaneous photographs, are presented in a series, each presentation being separated by an interval of time, but the perception to which they give rise is not a series of jerks, but one of continuous and more or less smooth movement.

In the psychic sphere the examples of functional inertia of movement are, I think, very numerous.

A person appears taller than he otherwise does if the clothing shows longitudinal striping—our minds have the idea of extension up and down; and being, as it were, occupied with it, they carry it on unconsciously into our estimate of the person's height. Again, in the familiar illusion in connection with the diagrams *A* and *B*, we judge line *A* shorter than *B*,



when they are actually equal—because the short lines *a a* give the notion of "backward," "returning on itself," "the end reached," and so on; and there having been set agoing in the mind this notion of limitation, we carry it into our judgment as to the length of the line *A*, which appears shorter than *B*, into the judgment of whose length the notion of "extension," "onward," &c., has been imported by mental functional inertia due to the short lines *b b* suggesting the notions "onwards" and "outwards" from the ends of the line *B*.

But this well-marked mental tendency to do what has been done before, to continue doing what you have just done, to yield to habit, to the familiar, &c., is nothing else than the expression of the functional inertia of psychic activity; every day we have examples of it; some one is reading the newspaper to us, the expression "thirty or fewer" is used, nine out of ten persons will read "thirty or forty" before they notice their mistake.

Oliver Wendell Holmes alleges that not one in ten people can read Judges xv, 16, correctly. The verse is—"And Samson said, with the jaw-bone of an ass heaps upon heaps, with the jaw of an ass have I slain a thousand men." Nearly every one reads "jaw-bone" for "jaw" in the second clause.

But examples could be indefinitely multiplied. Do not bigotry and fanaticism come under the categories of mental functional inertia of rest and functional inertia of activity respectively? Are not superstition and an unenlightened dislike to change examples of inertia of psychic rest?

It is owing, on the other hand, to the absence in the child-mind of both the inertia of rest and the inertia of movement that it exhibits such a high degree of suggestibility.

The child-mind maintains for so short a time and in so slight a fashion any one course of action or set purpose, that almost any fresh idea—"suggestion"—from parent or playmate can turn it aside into a fresh channel, and that, in turn, can be easily supplanted by some other, newer still.

There is so little mental inertia of rest belonging to the idea in possession of the mind that it can be easily supplanted, and the new idea has so little "momentum" that it can be easily turned out of its course for some new thing.

Thus, a "volatile nature" is one with but slight mental functional inertia of movement; a "dogged temperament" is one with much. The great obstinacy of the uncultured, and the "fixed delusion" of the lunatic, are cases of pathologically developed psychic inertia of rest.

Obituary.

JAMES DUNLOP, M.D.

Dr. James Dunlop died, at the age of 67, at his house, 16 Carlton Place, Glasgow, on Wednesday, 13th March, 1901. By his death a well-known figure is removed from the ranks of the medical profession of Glasgow. Up till a few years ago, when failing health compelled him to give up a large portion of his work, he was one of the busiest men in the City, his public engagements being numerous and his private practice extensive. Of a genial and kindly disposition, Dr. Dunlop was much esteemed by all who came into contact with him. He was a most approachable man, who was at all times willing to do his best for those who sought his advice in cases of delicacy or difficulty. Possessed of a fund of humour and anecdote, his conversation was always interesting, and as a travelling companion he was delightful, wiling away the hours of a long journey with his vivacity and racy talk. We will not readily forget the pleasure we enjoyed in his society during a visit to Rome, when the International Medical Congress met in the Eternal City in 1894. Though even then in somewhat feeble health, his enthusiasm was great, his energy untiring, and his interest in the antiquities of Rome intense.

All busy medical men have, or should have, a hobby or relaxation, which, on occasion, may take their minds away from the monotonous daily routine of professional work. Dr. Dunlop had two—the study of natural history, and a taste for Egyptology. The former he gratified during his annual visits to his native Kintyre, and many of his researches on the life, history, and habits of the deep-sea fishes were published in the columns of the *Glasgow Herald*. He was also interested in the pathology of the inhabitants of the sea, and when he succeeded in capturing a diseased fish his pathological friends in Glasgow were frequently called to his aid. His taste for Egyptology was, perhaps, less known to his professional brethren, and we only became acquainted with it when, on one occasion, he delivered a popular lecture on the subject of his studies of the life and manners of ancient Egypt. The lecture betrayed an amount of research which was surprising when we remembered how busy in professional work the lecturer must have been when his researches were carried out.

Altogether, Dr. Dunlop was a good all-round man, possessed of a thorough knowledge of human nature. He was a Volunteer medical officer of long standing, and formed one of the Queen's guard of honour when Her late Majesty visited Loch Katrine in 1859 to open the waterworks there. At the outbreak of the Crimean War he volunteered for active medical service, but was told he was too young. In January, 1900, he went to the Cape, and did active duty in the hospital at Wynberg. We are sure that no more enthusiastic medical Volunteer proceeded to the assistance of his countrymen in South Africa; and it is a striking circumstance that although, on account of youth, he could not help the soldiers in the Crimea, he was permitted to do a valuable work for his country when he was old and approaching the gates of death. Dr. Dunlop also gave evidence before the South African Hospital Commission.

To the medical profession of Glasgow Dr. Dunlop was best known as a surgeon and as a medico-legal expert. For over twenty years he was one of the visiting surgeons to the Glasgow Royal Infirmary, his whole connection with this institution having extended to the long period of about forty years. From 1869 to 1895 he lectured on systematic surgery at Anderson's College. He was a good type of the older school of surgeons; a practical man in all his ways, and forming his judgments with shrewd commonsense. Though what was known as a practical man, he took a great and a critical interest in the scientific researches of the younger surgeons, and none knew good scientific work better, when he saw it, than Dr. James Dunlop. His long experience as medico-legal examiner for the City of Glasgow gave his opinion on all such matters the weight of authority. We have frequently admired in the *post-mortem* room the almost intuitive manner in which he unravelled the mystery of a difficult criminal case. In the witness-box his equanimity was difficult to disturb and his evidence not easy to break down.

For many years Dr. Dunlop took an active interest in the affairs of the Faculty of Physicians and Surgeons, and some years ago he filled the office of Visitor. In his later years he acted as a Governor of the Victoria Infirmary and of the Samaritan Hospital for Women, devoting much of his time to the affairs of these institutions.

Dr. Dunlop was born in Campbeltown, and was educated at the grammar school there. He took his degree of M.D. at the University of Glasgow in 1857, and was admitted a Fellow of the Faculty of Physicians and Surgeons on 4th June, 1860. His whole professional life was passed in Glasgow. His wife and six sons and two daughters survive him. Of his sons, one, Dr. Binnie Dunlop, is at present on active service as a civil surgeon in South Africa, and another is a member of the English Bar.

Dr. Dunlop was too busy a man for many contributions to medical literature; but the following list of papers from his pen will show the bent of his mind in professional writing:—(1) "Notes on Acupressure as applied to 'Street Surgery'" (8vo, Glasgow, 1867); (2) "Contribution to Aseptic Surgery, being Notes of Cases" (8vo, Glasgow, 1876); (3) "Notes on *Post-mortem* Examinations in Criminal Cases conducted by the Crown Officials in Glasgow" (8vo, 1893); (4) "Address to the Glasgow Southern Medical Society on the Victoria Infirmary" (Glasgow, 1896); (5) "Medical Report on the Clyde Volunteer Brigade Camp at Gailes, Irvine" (1889).

WILLIAM JAMES FLEMING, M.D.

At the early age of 52, this gentleman has passed away after a lingering illness. Some three years ago the symptoms showed themselves of an affection which, at a later period, was recognised as malignant disease of the prostate. To those who came into contact with him during the progress of the malady, the cheerful, undaunted fortitude with which he bore it was a pleasing revelation of character.

Dr. Fleming was a native of Glasgow, being the eldest son of the late Dr. John Gibson Fleming, long well-known as a leading member of the medical profession in Glasgow, who was for sixteen years a member of the General Medical Council, and for a number of years President of the Faculty of Physicians and Surgeons. The Flemings belong to an old Glasgow stock which has contributed more than one notable Glasgow citizen. Educated at the Glasgow Academy, and the arts and medical classes of the University, Dr. Fleming graduated M.B. in 1872, and M.D. in 1879. Soon after qualifying, he was appointed by Mr. (now Lord) Lister as his house surgeon in the Royal Infirmary of Edinburgh, and he subsequently studied in London and on the Continent. On his settling down to practice in Glasgow, he was appointed dispensary surgeon to the Royal Infirmary and lecturer on physiology in the Royal Infirmary School of Medicine, which ultimately developed into that of St. Mungo's College, though in the latter Dr. Fleming did not hold office. In 1885, on the resignation of Dr. Eben. Watson, he was appointed one of the surgeons of the Royal Infirmary, and held that office till 1895, when he was disqualified for re-election under the then existing regulations. On the establishment of the medical school in connection with Queen Margaret College, Dr. Fleming was appointed lecturer on surgery and clinical surgery to the College; and, when the institution was incorporated with the University in 1892, he continued to fill the same offices by appointment of the University Court. When his period as hospital surgeon terminated, he also demitted these offices. In the Faculty of Physicians and Surgeons, to the Fellowship of which body he was admitted in 1875, he held various offices, the most important of which was that of examiner in physiology; and in his later years the Faculty also elected him a manager of the Royal Infirmary, an office for which his intimate knowledge of the hospital, and the great interest he took in its affairs, peculiarly fitted him.

His published papers bear chiefly on subjects within the domain of physiology and surgery, the more important of them being "On the Physiology of the Turkish Bath" (*Journ. of Anat. and Physiol.*, xiii), 1879; "Pulse Dichrotism" (*Ibid.*, ix), 1881; "The Motions of the Brain" (*Glasg. Med. Journal*, ix), 1877; "Experimental Inquiry into the Amount of Heating which Air undergoes in the Upper Part of the

Air-passages during Inspiration, with Reference to the After-treatment of Tracheotomy" (*Ibid.*, xvii), 1882; "On the Support and Fixation of the Head by Expanding Indiarubber Bags in Disease of the Upper Part of the Spine" (*Ibid.*, xxi), 1884.

Dr. Fleming was of an open and straightforward character, a firm friend, and in feeling and bearing a gentleman. His wife, a daughter of the late Bailie Walls, formerly treasurer to the city, predeceased him by some years, and four sons survive him.

JAMES NICOL, M.D., LLANDUDNO.

THE following notice, taken from the *Times* of Tuesday, 26th February, 1901, is of interest to our readers as referring to a very old Glasgow graduate who has just passed away.

Dr. James Nicol, of Llandudno, who died on 20th February, was born on 8th May, 1815, at Carnwath, Lanarkshire, and qualified for the profession of medicine at Glasgow University, where he took his M.D. degree in 1839. He practised medicine at Carnwath and Aberdour, and went to Llandudno in 1858. He had not been long there before he realised that the climate was no ordinary one. He forthwith commenced a series of regular meteorological observations, which have been continued up to the present time. The results of these observations fully supported his opinion of the climate.

Dr. Nicol was appointed medical officer of health, a post which he held for twenty years. He was an earnest advocate for the improvement of Llandudno, and mainly through his continued efforts the beautiful marine drive round the great drive was constructed, and the pier and pavilion built. He was instrumental in securing for the town a good system of sewerage, and a plentiful water-supply. Dr. Nicoll was a contributor to the local press, and published pamphlets on the "Climate of Llandudno" (which has passed through several editions); "Bathing: Its Principles and Practice;" and "Llandudno as a Health Resort."

JOHN DUDGEON, M.D., C.M. (GLASG.), PEKIN, CHINA.

DR. DUDGEON, consulting surgeon to the British Legation at Pekin, died there on 22nd February, in his sixty-fourth year. He studied at the Universities of Edinburgh and Glasgow, graduating in Glasgow in 1862. In the following year he went to China, and was appointed physician, and afterwards consulting surgeon, to the British Legation in Pekin, and Professor of Anatomy and Physiology at the Imperial College in that city. In 1864, he became surgeon to the Pekin Hospital in connection with the London Missionary Society, a hospital which had been established a few years before by Dr. William Lockhart, the first Protestant medical missionary to China. This itself meant a great amount of work, but to this there had to be added an extensive outside practice, daily translation of useful books into Chinese, preparing and delivering his lectures, and the writing of various books and papers in English or in Chinese. Dr. Dudgeon had an intimate knowledge of the Chinese people and their habits, and it is said that he considered the poorer classes of Pekin to be better off as regards pure air and good food than the corresponding classes in London. Dr. Dudgeon was an active defender during the recent siege of the Legations, and at his death was the oldest medical resident in the city.

JOHN ROBERT BLACK, M.D.

Dr. Black died on Sunday, 17th March, 1901, at Biskra, Algeria, where he had gone on a holiday to recruit his health. There was no symptom of serious illness when Dr. Black left home in company with Mrs. Black, and it was anticipated that a short sojourn in a genial climate would effect a restoration to good health. During the preceding week, however, peritonitis set in, and, notwithstanding a rally, the patient gradually succumbed to the disease. Dr. Black was one of the leading practitioners of Greenock, and for many years was closely identified with local associations for the amelioration of the people. He was a son of Provost John Black, and was educated first at Kilblain Academy, and afterwards at the University of Edinburgh, where he graduated M.B., C.M., and obtained the degree of M.D. While at the University he proved a distinguished student, and was awarded the gold medal for his year in obstetrics. He subsequently studied at the University of Berlin, and on the completion of his course there began practice in Greenock in 1872. He was for a considerable period one of the Greenock Infirmary surgeons, in which capacity he performed valuable work for that institution and the community. In other public connections his services were given freely for the benefit of fellow-citizens.

He was an active member of the Philosophical Society, and served as president for a term; he was an ardent musician; he took a main interest in the affairs of Union Street United Free Church, of which he was an elder; and most recently his energies had been directed towards the erection of a children's convalescent home, a scheme which may now be regarded as an assured success. Dr. Black was held in high esteem by a very wide circle, and his decease, at the early age of 51 years, will be keenly felt throughout the community. He is survived by Mrs. Black, three sons, and two daughters; and the other near relatives are his father, Provost Black, and his brother, Mr. George Hedger Black, solicitor.

CURRENT TOPICS.

National Association for the Prevention of Consumption and other forms of Tuberculosis.—On the invitation of the Lord Provost, a meeting of citizens was held in the Banqueting Hall of the City Chambers on the afternoon of Friday, 22nd ult., to consider the propriety of forming a local branch of this Association. The meeting was called at the request of the Committee of the Corporation on Tuberculosis, and also of the Glasgow Medico-Chirurgical Society. After a few introductory remarks from Lord Provost Chisholm, four resolutions were submitted, and, with a slight modification in the terms of one of them, adopted by the meeting.

The first resolution was proposed by Principal Story, and seconded by Professor M'Call Anderson. "As it is now regarded by all medical authorities that consumption is not so much a hereditary and incurable disease as infectious, preventable and curable, this meeting is of opinion that means should be used to inform the public in regard to the nature of consumption and the steps necessary to prevent its spread."

Dr. Lindsay Steven moved, as an amendment, the omission of the words "hereditary and." Dr. Workman seconded. The motion was carried by a majority.

The second resolution was proposed by Professor Glaister (in the absence of Sir Hector Cameron), and seconded by Councillor James Dick. "This meeting is of opinion that a Glasgow and District Branch of the National Association for the Prevention of Consumption and other forms of Tuberculosis should be formed."

The third resolution was proposed by Sir John Neilson Cuthbertson, seconded by Professor Stockman, and supported by Mr. Wm. Quarrier. "This meeting is of opinion that sanatoria for the treatment of tuberculous disease are urgently required in the interests both of the sufferers and of the citizens generally."

The fourth resolution, appointing an Executive Committee, was moved by Professor H. E. Clark, and seconded by Mr. James Brand.

The meeting was large, representative, and enthusiastic.

VICTORIA INFIRMARY.—The following appointments have been made recently:—*Infirmary*—Assistant Surgeon, Dr. Alex. Roxburgh. *Infirmary Dispensary*—Surgeon, Dr. James Weir; Gynæcologist, Dr. E. Arthur Gibson. *Bellahouston Dispensary*—Gynæcologist, Dr. Matt. Dunning; Surgeons, Dr. J. Fraser Orr and Dr. Andrew Wauchope. *Extra Dispensary Staff*—Surgeon, Dr. H. M. M'Houl.

NEW PREPARATIONS, &c.

CYPRIDOL (Vial, Paris; Wilcox, Jozeau & Co., London) is a newly introduced mercurial preparation, made by dissolving 1 part of nascent biniodide of mercury in 100 parts of a neutral aseptic oil, which keeps indefinitely. This specific biniodised oil, known as cypridol, may be given in 3 minim capsules (containing $\frac{1}{32}$ of a grain of HgI_2) by the mouth, or may be injected into the muscles. The preparation is, of course, specially calculated to be of service in syphilis, but various other uses to which it might be put will readily occur to the medical practitioner.

TABLOID SODIUM BISULPHATE GR. 5 (Burroughs Wellcome & Co., London).—Experiments seem to show that a solution of sodium bisulphate in the proportion of 15 grains of the salt to 1 pint of water can render the bacillus of typhoid harmless after fifteen minutes' contact. Three of these tabloids, therefore, should be powdered and dissolved in each pint of drinking water under any circumstances which might suggest contamination. The water should stand for fifteen minutes before drinking. The tabloids are supplied in bottles containing 100 each.

MEETINGS OF SOCIETIES.

OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

SESSION 1900-1901.

MEETING V.—30TH JANUARY, 1901.

The President, DR. ROBERT JARDINE, *in the Chair.*

I.—NOTES OF A CASE OF OPACITY OF THE CORNEA (? TRAUMATIC KERATITIS) IN THE NEW-BORN.

BY DR. ROBERT JARDINE.

The case I have to show to-night is a very interesting one from an ophthalmic point of view. The mother, v-para, æt. 34, was sent to the hospital by a doctor after he had failed to deliver her with forceps. The cord was found to be prolapsed, but it was pulsating strongly. The diagonal conjugate measured 4¼ inches, which would give a true conjugate of 3½ inches. By direct measurement with the closed hand after delivery we found this was correct. Under chloroform the cord was easily replaced. Delivery was effected by Milne-Murray's axis traction forceps after a pretty stiff pull. The child, a male, weighed 9¼ lb. Artificial respiration was necessary. The head had been grasped obliquely with one blade of the forceps over the right eye.

A few hours after birth the right cornea was observed to be opaque. The pupil could only be distinguished with difficulty. The surface lustre was somewhat diminished. The pupil reacted to light.

Dr. Ernest Thomson examined the eye on the 23rd and 27th. On the second occasion the pupil had been dilated with atropia. He could not find any evidence of inflammatory action. On the 27th the opacity had markedly diminished. He was of the opinion that the opacity had been caused by the pressure of the blades of the forceps.

The child is now ten days old. You will notice that there is still distinct dimness of the cornea. It has cleared up considerably.

Is Dr. Thomson's explanation the true one? There is no evidence of syphilis about the mother, and the child has not shown any as yet. I have seen a very large number of cases in which there was quite as much pressure on the eye as here, and yet have never before noticed any opacity of the cornea. Very early in the embryo the cornea is opaque, and may not this be a case in which there has been delay in clearing up?

Note.—By a curious coincidence, we have had a second case, in which there is no doubt that the opacity was caused by pressure. The patient was delivered on 28th February. She had a scolio-rachitic pelvis, with a true conjugate of 2¾ inches. The child weighed 7 lb., and was delivered with axis traction forceps. There was a depressed fracture of the left frontal bone, caused by the promontory. The right eye was found to have an opacity of the cornea exactly the same as in the first case. This was noticed immediately after delivery. The blade of the forceps had been over it. The left eye bulged somewhat, and there was a large hæmorrhage into the upper part of the orbit. The eyeball could not be examined. Three days later the clot was removed, and the eyeball was found to be intact, but the cornea was also slightly opaque.

In this case there can be no doubt about the cause. The left orbital plate is evidently fractured. The depression of the frontal bone has somewhat lessened, but it will have to be elevated when the child is a little older.

II.—CASE OF SUDDEN DEATH FROM EMBOLISM AFTER AN ABORTION.

By Dr. Robert Jardine.

Mrs. D., vi-para, æt. 33, was admitted to the Glasgow Maternity Hospital on 24th November, 1900, complaining of frequent and profuse floodings. Dr. Munro Kerr had seen her at the Western Infirmary, and recommended her to the hospital. She had had an abortion about four months before. She was again about two months pregnant, and had lately had profuse bleedings. She was very nervous, and was evidently suffering from alcoholism. The uterus was enlarged, but the os was undilated. There was very little bleeding. The vagina was well douched and plugged. The plugging was repeated next day. After the second plug was removed, she was given chloroform in order to clear out the uterus. Hegar's dilators were used, as the os was only partly dilated. Before the uterus could be cleared with the flushing curette, she stopped breathing, and artificial respiration had to be performed for some time. The operation was discontinued, and as there was considerable oozing from the uterus, the cavity was plugged with iodoform gauze. She was freely stimulated by enemata, and hypodermic injections of ether and strychnine and a large saline injection given. Next day a pint and a half saline infusion were given into the abdominal wall. She remained very weak. Her urine was very scanty.

As she was so weak no attempt was made to clear out the uterus. The ovum came away on the 29th, but there was still some decidua left.

On the 30th, about 3·15 A.M., she awoke in a very breathless condition, and died in a few minutes.

Dr. Carstairs Douglas will show the heart, and describe its condition. The presence of the large *ante-mortem* clot is very interesting in view of the fact that superficially we had marked loss of coagulation of the blood. We observed that her tongue bled profusely for several hours from the slight puncture made by the forceps in keeping it forwards. There were also hæmorrhages into the subcutaneous tissues at the several hypodermic punctures and at the points of infusion. It looked almost as if she were suffering from hæmophilia in a mild form. The superficial hæmorrhages were probably due to alcoholism. The condition of her heart quite accounted for the collapse under chloroform.

Dr. Carstairs Douglas demonstrated the heart from this case, and showed the large *ante-mortem* clot lying in the right ventricle. It was adherent to the endocardium and musculi papillares, and extended up into the pulmonary artery. The blood during pregnancy and the puerperium has more fibrin and coagulates easier, but Dr. Jardine's case showed, on the other hand, a hæmophilic condition, as the punctures of the hypodermic needle bled profusely. He had been much struck in doing *post-mortem* work at the Maternity Hospital with the frequency with which he found *ante-mortem* clots in the heart. He showed the Fellows a heart from a case of eclampsia, which had died a few days before, in which the right auricle was occupied by a very large clot of this kind. He referred to Heim's paper on this point in *L'Obstétrique*, November, 1900, in which the writer attributes the still frequent occurence of phlegmasia dolens (in spite of aseptic midwifery) to this tendency of the blood to clot in pregnancy and the puerperium. Dr. Douglas said he hoped this year to make some observations on this matter, in the hospital, with the aid of the coagulometer.

III.—CASE OF COMPLETE TUBAL ABORTION IN WHICH THE INTACT OVUM WAS FOUND LYING IN DOUGLAS' POUCH.

By Dr. John Edgar.

Mrs. S., æt. 30, nullipara, married two and a half years, one abortion at seventh week two years ago, was admitted into the Samaritan Hospital on 26th January, 1901, in a state of semi-collapse, and complaining of cramp-like abdominal pains.

History.—Menstruation regular till 26th November, then six weeks' amenorrhœa, during which there were morning sickness and breast symptoms. About Christmas she had for four days a "feverish chill," temperature 104° F., with pelvic pain. From 4th January till admission, there was continuous uterine hæmorrhage. Several lumps (clots ?) were passed at intervals with colicky pains. Not sure if membrane was expelled. On 23rd patient had a sudden attack of cramp-like pains, with faintness, retching, and cold sweat. This recurred at 10 P.M. on the 25th, and at midnight she was so collapsed that her medical attendant thought she was going to die.

On admission next day patient was still collapsed, and complained of abdominal pain, which was most severe in the left iliac region. She had also a bearing-down feeling and dysuria. The abdomen was distended and tender, and there was dulness on percussion over the hypogastrium. *Per vaginam*, a soft boggy mass was felt behind the uterus, but tenderness was too marked to permit of palpation of the uterine appendages. Three enemata had to be given before the bowels moved, the first time for six days.

On 28th ether was administered. Bimanual examination then showed swelling of the left appendages. When the abdominal cavity was opened a large amount of fluid blood welled out. The left tube was found distended to the thickness of the index-finger, but the ostium abdominale was patent. The tube was removed along with the ovary, which contained a large and recent corpus luteum. The other appendages were normal. While sponging out the pouch of Douglas, an intact three weeks' ovum was found lying free.

Patient is doing well.

IV.—CASE OF SPONTANEOUS RUPTURE OF THE UTERUS.

By Dr. Robert Jardine.

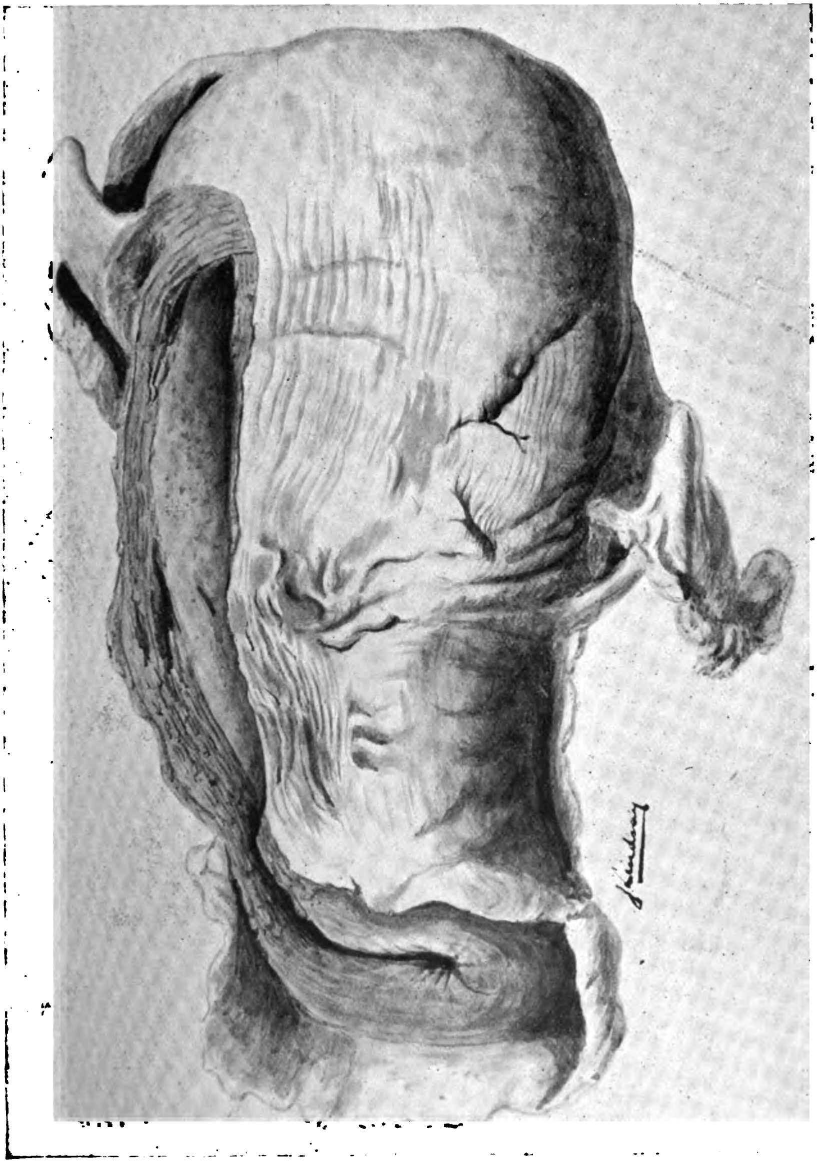
Rupture of the uterus is, fortunately, a rare complication of labour. In the vast majority of cases it arises in an obstructed labour either from excessive uterine action or more frequently from attempts to deliver. Spontaneous rupture, without any obstruction to delivery, is fortunately, exceedingly rare. It is an appalling occurrence to have a case, which is apparently going on well, suddenly end by the uterus giving way without the least warning. In the case I am about to record, we had no warning of such an accident happening.

Mrs. C., æt. 32, vii-para, admitted to the Maternity Hospital on 25th January, 1900. Two nurses saw this patient at her home, and brought her into the hospital, as there had been some hæmorrhage. When she came in at 11 A.M. the discharge had ceased. The os admitted two fingers. The head presented in the first position. She was having regular pains, and the pulse was good. There was no over-distension of the uterus. The resident plugged the vagina.

I saw her about 12.30 P.M., and removed the plug. There was no bleeding, and the os had now dilated to about the size of a crown piece. The membranes were intact, but there were no forewaters. The pains were increasing in strength. Careful palpation of the uterus showed that there was no internal hæmorrhage. She complained of some pain low down and to the left. As labour was apparently going on naturally, I advised leaving delivery to nature.

About 2 P.M., shortly after I had left the hospital, she had a violent pain, and screamed out that something had given way. She had three of these in quick succession, and then collapsed completely. The resident, Dr. W. F. M'Ewen, examined her at once, and found the os fully dilated, and the head partly in the pelvis. The vaginal portion of the cervix was then intact. She was given a slight whiff of chloroform, and delivery effected with forceps. A large amount of clot and the placenta were at once removed. A large tear was felt extending right up the left side of the uterus from the cervix to the fundus. The uterus and rent were plugged, and a saline infusion and stimulants given; but the patient died in a few minutes, just as I reached the hospital.

The uterus was afterwards removed through the vagina. The tear extended almost to the fundus on the left side. (See illustration.) The vaginal portion of the cervix had evidently given way during the delivery, as Dr. M'Ewen was sure it was intact when he applied the forceps. One would expect this to happen. To the naked eye, the muscular fibres appeared pale, but the uterine wall was of normal thickness. A piece was removed and hardened in perchloride of mercury solution.



Ruptured uterus—posterior aspect.

Some five years ago a somewhat similar case occurred in the out-door department of the hospital. The patient, a multipara, was being attended by two very intelligent nurses, who were positive that the head was coming down all right and everything going on well, when the patient suddenly exclaimed, during a severe pain, that something had given way. The pains then ceased, and the nurses found that the head had receded. The out-door resident was called, and found the uterus ruptured. He brought a foot down, and delivered easily. The patient was brought into hospital; but she died a couple of days later. Unfortunately, no microscopic examination was made of the uterine tissue.

The etiology of spontaneous rupture of the uterus is somewhat obscure. In the *Centralblatt für Gynæcologie* for February, 1898, Dr. Michael Poroschin published a most interesting paper on this subject, founded on a case of incomplete rupture of the posterior uterine wall caused by a fall on the back two days before labour had set in. The patient, xi-para, was 45 years old. When admitted the os was beginning to dilate and everything seemed normal, but when the pains became stronger she complained of pain in the abdomen and became collapsed. The uterus was found to have increased in size, and there was some bloody discharge from the vagina. Concealed accidental hæmorrhage was diagnosed. The membranes were ruptured, and a large amount of liquor amnii evacuated. Delivery was effected by expression, and the uterus emptied of the placenta and clots by Credé's method. The uterus soon contracted and stopped the hæmorrhage, but the patient died two hours and a half later. The *post-mortem* examination revealed a rather deep and long irregular tear of the posterior uterine wall, extending through the muscular tissue, but not involving the peritoneum. He considered that there had first been a slight rupture caused by the fall, and, as no large vessels had been involved, the bleeding had not been great; but, as soon as the uterine contractions had become strong, the tearing had increased and the hæmorrhage become so great as to entirely separate the placenta and distend the uterus. In my case it is quite possible that a slight incomplete rupture had occurred before the patient was admitted. This would account for the hæmorrhage. I am led to think this was likely the case, because the patient complained of some pain low down and to the left of the uterus, irrespective of the uterine contractions. As careful palpation did not reveal anything abnormal, I did not attach any importance to her complaint. We got no history of any injury, but she may have overstrained herself in getting out of one of those high beds so common in workingmen's houses. The bleeding had come on shortly after she had risen.

Poroschin mentions a case of Hindle's, which was published in the *British Medical Journal* for 10th February, 1894. The patient, a multipara, æt. 42, near full time, fell on the 28th December, 1893. She went about as usual until 2nd January, 1894, when labour set in. Four and a half hours after the pains began she suddenly collapsed. The uterus had ruptured, and the fœtus in its membranes had escaped into the abdominal cavity.

In Poroschin's case, to the naked eye the uterus showed no special changes. Microscopic examination showed the muscle fibres cloudy, slightly outlined with pale coloured nuclei. In the deeper layers of the torn muscles there was infiltration of blood, but neither the muscle fibres nor the red corpuscles were changed. On examining the elastic tissue he found that it was almost entirely wanting. Elastic fibres were only to be seen in the walls of the vessels, and there they looked rather angular, nodulous, and sometimes granular. The fibres were solid, without offshoots, and did not unite with one another. The elastic tissue of neighbouring vessels did not intermingle, and no offshoots passed into the neighbouring tissue. From this he concluded that the rupture was due to the want of elastic tissue.

The following is Dr. A. R. Ferguson's report of my case:—

"*Rupture of wall of gravid uterus: Histological examination and report.*

"(The tissue was fixed in saturated solution of perchloride of mercury, and pieces of about 1 cm. in diameter were afterwards embedded in paraffin and sectioned.)

"A certain amount of hæmorrhage is evident at and near the ruptured edge of the tissue—red blood corpuscles being observed lying in the interstitial tissue for a considerable distance remote from the ruptured edge.

"There is distinct evidence of degeneration of the muscle-fibres in the vicinity of the seat of rupture. Many are swollen and hyaline in appearance, nuclear staining in these being practically absent. Muscle-fibres of these characters are found in the uterine tissue at a considerable distance from actual seat of rupture.

"The muscle-fibres at the actual seat of rupture are, for the most part, atrophied and shrunken, and in many places exhibit transverse or irregular fractures of the muscle substance. Nuclear staining in these fibres is absent.

"The blood-vessels of the uterine wall appear healthy, though the perivascular lymph-spaces are, in most cases, occupied by red blood corpuscles.

"Some of the sections are specially treated to demonstrate the elastic tissue constituents of the connective tissue. It is observed that elastic tissue fibres are relatively scanty near the ruptured edge. In this situation they also stain more feebly than elsewhere. Many are broken up, and present slight irregularities of contour. No decided swellings or nodes in the course of any of these fibres can, however, be detected."

From this report it is evident that not only were the muscle-fibres degenerated, but there was also scarcity and degeneration of the elastic fibres.

The case differs somewhat from Dr. Poroschin's, in that the muscle-fibres were degenerated, while the elastic elements were present, but scanty and degenerated. The degeneration of the muscular elements probably accounts for the rupture happening without any known extra strain having been thrown on the uterus, as in Poroschin and Hindle's cases.

The question arises, can one guard against spontaneous rupture during labour? I am not now referring to obstructed labours with strong uterine contractions, but to cases like the one I have just recorded. I do not think one can, as they always occur without any warning. In my case I had some ante-partum hæmorrhage, and if that had been severe or continued I would undoubtedly have interfered, and delivered the patient at once. Had I done so, I think it more than probable that the rupture would have occurred, and I would have blamed myself as being the cause.

As to the best treatment when the rupture has occurred, I shall not deal with that to-night, but leave it for a future occasion, when I hope to give notes of a few cases we have had sent into the hospital during the last year or two.

I am deeply indebted to Dr. Ferguson for all the trouble he has taken in making such a careful examination of the tissues submitted to him, and also to Dr. John Lindsay for the excellent drawing he has made of the specimen.

V.—PLACENTAL POLYPUS.

By Dr. A. W. Russell.

True placental polypus is a condition that is probably of greater interest than importance, but as it is not often seen, and as deciduoma malignum has been reported as following it, this complete specimen is shown to-night. It was removed nearly three months ago from a patient, 41 years of age, who had passed through an apparently normal labour, under the care of a midwife, about seven weeks previous to the date of operation. It was her eleventh pregnancy, the others being also normal, except one, a miscarriage at five months. The patient could not say whether the midwife had used traction or other unusual manipulation in the removal of the placenta, but she said she had had a severe flooding at the time, and had been bleeding ever since. Her anæmia and weakness were marked, and her temperature had also been rising. Her doctor feared that it might be an inversion of the uterus, and I was asked to see her. After examining her together, we decided that it was a polypus springing from the interior of the body of the uterus, and we arranged to remove it next day. Under chloroform, the cervix, soft and already well dilated, admitted the finger easily, and, in trying to locate the exact site of the growth, I detached it, leaving a roughened surface and slightly projecting stump on the posterior wall and near the left cornu. The whole uterus was well curetted with the blunt flushing curette, and the abundant *débris* which I now show you was removed. As the stump could not be completely reduced with the blunt curette, I followed with the sharp curette. I douched before and after with mercuric potassium iodide solution, and afterwards introduced an iodoform gauze drain which had been wrung out of the antiseptic solution. The cervical tissue was very soft, it being almost impossible to keep hold of it with the ordinary bullet forceps, and it bled so freely as to require suture. The patient made a rapid and complete recovery.

The placental tissue can be traced about half way along one side of the polypus, the rest of it being blood-clot, with whitish branching framework of fibrinous material.

REVIEWS.

Orthopædic Surgery. By Charles Bell Keetley, F.R.C.S. London: Smith, Elder & Co. 1900.

In these days of medical book-making, it is a satisfaction to meet with one which indicates the author's fitness for the work so thoroughly as the one now before us does. Mr. Keetley has been in no hurry to get out his book, for he tells us he first considered its execution twenty years ago; and in every chapter one obtains abundant evidence that during this period he has had a very considerable experience in this branch of surgery, that he is a careful observer, and that he has a wide knowledge of the literature of the whole subject; as a consequence he has been able to produce an original and eminently practical work, characterised by a breadth of view and an amount of commonsense which make it very satisfactory.

Orthopædic surgery has suffered in the past from the extraordinary number of theories that have been propounded from time to time by various writers, who have done their hobbies to death without really producing much evidence in support of their ideas. The author is a vigorous critic of many of these, and never leaves one in doubt as to what his opinion is of their value, but expresses it in language that is plain and often amusing. He appears to us to be specially successful in his account of the treatment of the various conditions, and, while mechanical appliances receive due consideration, he very justly remarks "the mere fact of the latter being expensive of time and money is enough to give them an enhanced value in the eyes of patients, who would not be human if they did not value highest that which costs them (or other people) most." And he, therefore, continually urges that as a means of saving time, operation is indicated. We cordially agree with this; it is a point which is too often lost sight of by orthopædists. The descriptions of the various operations are very good, being short and practical, and obviously written by one who has experience of what he wishes to communicate.

While we have been very favourably impressed with the whole book, we would specially mention the chapters dealing with rickets, genu valgum, talipes, and scoliosis; they are first-rate. We are glad to notice that in the treatment of club-foot he does not favour Phelps' operation nor the transplantation of tendons; and, while we are inclined to agree with him that rickets plays an important part in the production of scoliosis, we think he underestimates the effects of position, &c., as a factor.

Altogether, we congratulate Mr. Keetley on having produced a highly satisfactory work, and one which we can strongly recommend to anyone desirous of obtaining a knowledge of orthopædic surgery of the present day. The book is well printed, and on good paper, but some of the illustrations might be improved upon—some of those which are reproduced from photographs.

A Text-Book of the Practice of Medicine. By JAMES M. ANDERS, M.D., Ph.D., LL.D. Fourth Edition. London: W. B. Saunders & Co. 1900.

A Text-Book of Practical Medicine. By WILLIAM GILMAN THOMPSON, M.D. London: Henry Kimpton. 1900.

THESE two works, each by an American author, resemble one another so closely in their general arrangement and subject-matter that they can very conveniently be considered together. The former is but a new edition of an already well-known book, of which public opinion has been so favourable that it has demanded, within a very few years, this fourth edition. The other, still in its first edition, comes to its readers with the preface that "the advent of a new century makes appropriate a comprehensive review of the present status of medical practice. It is the aim of this book to offer such a presentation to students and practitioners." But the newer work contains little that is not in the older one; and, indeed, the chief difference between the two books seems to be in the number of their pages, Dr. Anders' containing 300 pages more than Dr. Thompson's, and being accordingly less condensed and more amply illustrated. The former, too, is bound up in twin volumes, whereas the latter is confined in one.

In the grouping of diseases, then, these two books follow similar lines, and in this they differ somewhat from most of the older text-books on the practice of medicine. For example, such morbid conditions as pneumonia, malaria, dysentery, rheumatism, syphilis, chronic tuberculosis, leprosy, and tetanus are classed along with the exanthemata as "infectious diseases." And, indeed, so many other ailments are included in this group that one is disposed to ask—Why not also many more? for, after all, are not most diseases the result of some kind of infection? We note also that both authors exclude "diseases of the skin" from their works, doubtless regarding that as a subject outside general medicine.

Of the subject-matter of these two books, one can take little exception. But, at the same time, we cannot but feel that while we have been given a vast amount of valuable information, yet there has been too little attempt to connect the symptoms of the disease with their pathological anatomy—too little attempt, in short, to deal with the philosophy of the disease. This, to us, seems a mistake, for symptoms lose their interest and become little more than dry facts when they have not their meaning attached to them. This applies, perhaps, less to Dr. Anders' than to Dr. Thompson's book, whose descriptions in places get so concise and condensed as to assume somewhat the character of those in a dictionary. This, however, is less marked at the beginning than at the end of the volume. There are also some few errors to be noted in Dr. Thompson's book, which, doubtless, will disappear in the next edition. For example, the sign described on page 161 is not "König's," but "Kernig's;" also, at page 562 there seems to be some confusion as to the different kinds of red blood corpuscles found in the blood in pernicious anæmia, for "megaloblast" is used when "megalocyte" is meant; and it is not megaloblasts but the non-nucleated red blood corpuscles to which the term "poikilocytosis" is usually applied. As to the statement on page 564, that leukæmia "has occasionally developed in cases of pernicious anæmia and also in Hodgkin's disease," while not denying the possibility of such a contingency, yet we should like to have a full account, both clinical and pathological, of such cases, before accepting the statement as accurate. Nor do we quite understand the author classifying "status lymphaticus" and "general leucæmic or lymphoid infiltration" with a group of diseases quite separate from leucæmia; for if these two conditions are not actually forms of lymphatic leucæmia, they must be most closely related to it. But diseases of the blood is doubtless a difficult subject to deal with, and this, perhaps, explains our difficulty in understanding Dr. Anders' meaning in regard to the etiology of pernicious anæmia. Does he regard his Group 2 (cases due to malignant disease and to intestinal worms), and also Group 3 (cases following prolonged hæmorrhage or diarrhœa), as being cases of pernicious anæmia? and, if so, does he find iron pigment in excess in the liver cells in such cases? These two groups seem to us to belong to quite a different category from that in which we place pernicious anæmia. But, in spite of these, and possibly some other points to which we might take exception, the two books are really very admirable treatises on the practice of medicine, and they cannot but be most helpful to many students and medical practitioners.

Modern Medicine. By JULIUS L. SALINGER, M.D., and FREDERICK J. KALTEYER, M.D. Illustrated. London: W. B. Saunders & Co. 1900.

THOUGH this is a bulky volume of over 800 pages, it is quite elementary in its scope. It begins with symptomatology, physical diagnosis, clinical bacteriology, and laboratory methods, the last including the examination of the sputum, stomach contents, blood, urine, &c. After this, the different parts of the work treat of the following subjects in order:—Infectious diseases, diseases of the circulation, diseases of the respiratory system, diseases of the digestive tract, diseases of the kidneys, constitutional diseases, diseases of the blood and of the ductless glands, diseases of the nervous system, diseases of the muscles, intoxications and sunstroke, and diseases due to animal parasites. There are eight plates to illustrate the various forms of blood corpuscles, the blood in malaria, the geographical distribution of malaria, certain urinary deposits, and certain diseases of the kidney. The work is furnished with a copious index. It strikes us as well written, but it is too elementary for the needs of the practitioner, and the fact that diseases of the skin are not considered makes it unsatisfactory as a text-book for students in this country.

A Practical Treatise on Medical Diagnosis, for Students and Physicians. By JOHN H. MUSSER, M.D. Fourth Edition, Revised and Enlarged. Illustrated with 250 Woodcuts and 49 Coloured Plates. London: Henry Kimpton. 1901.

THIS is a volume of which the author and publisher may well be proud, and is one of the best medical treatises that have been produced on the other side of the Atlantic. The text extends over nearly eleven hundred pages of excellent letterpress, and is divided into two parts, which treat of general and of special diagnosis. In the first part, we have a consideration of all the multitudinous data which the clinician obtains by inquiry and examination. The eye, ear, and skin are referred to in this part. The second part deals with the diseases of the various organs, including the nose and larynx, as well as the other organs whose disorders are usually discussed in general text-books of medicine. The numerous illustrations possess merit of a high order.

This is obviously not a book to be read through, but, by the aid of the index, we have looked at point after point, including matters that have quite recently been introduced to practical medicine, and we have failed to detect an error of omission or of commission. On the contrary, the longer one continues to examine the work, the more reason does one find to be gratified by its high aim and masterly attainment.

A Text-Book of Embryology, for Students of Medicine. By JOHN CLEMENT HEISLER, M.D. London: W. B. Saunders. 1899.

THE writer of a text-book on the subject of embryology necessarily draws largely on the labours of many workers. This is acknowleged in the preface of the book. At the same time, one regrets the author's resolve, therein stated, not to cite authorities in the text.

Perhaps it is well in preparing a book for students that the writer should be dogmatic, but, while general principles may be so laid down, it would add to the value of the book if references were given in connection with details. As it is, these are, for the most part, given as if already generally accepted.

In parts, there is observable a looseness of expression, and confusion is sure to arise in the mind of a student in connection with the double use of the expression "genital ridge;" while, again, "uro-genital sinus" is used on p. 180 in a different sense from that given on the preceding page. We hope that the use of words such as "caudad," "ventrad," and "anlage" will not become general.

The printing and illustrations are good, and the chronological tables which conclude the volume are very conveniently arranged for reference. The work is well done, and will prove a help to those for whom it is intended.

Uterine Tumours: Their Pathology and Treatment. By W. ROGER WILLIAMS, F.R.C.S. London: Baillière, Tindall & Cox. 1901.

MR. ROGER WILLIAMS thinks that the time has arrived for the construction of a philosophy of medicine, and has written the work before us in the belief that nothing will be more conducive to this "than the writing of reliable monographs on every department of medical knowledge." His endeavour, we take it, has, therefore, been to give us a "reliable monograph" on uterine tumours—surely a task worth attempting! We need not ask what special equipment he has for it. He is apparently not a gynæcologist, yet he is here adventuring into the special sphere of gynæcology. We need not, however, insist upon the old advice, "*Ne sutor ultra crepidam*," and it has been usual for surgeons to maintain an attitude of superiority to those who have done them the injury of helping and instructing them.

The author's descriptions of the gynæcological operations he mentions do not convey the impression that he speaks of them from familiar personal experience, though such personal experience one would think should be the chief qualification for the task.

All that, however, is of secondary importance to the question as to how far the author has succeeded in developing a "philosophy" of uterine tumours, if, indeed, such a philosophy is possible at the beginning of this twentieth century.

Mr. Williams evidently begins with great confidence. He treats us to many learned terms. "Neoplastic pathogeny" in general is discussed. We have chapters on the "pathogenesis," the "morphology," the "biology" of myoma. We have discussions on ontogeny, histogenesis, heterotopia. But after them all we have to confess, with a sigh, that new presbyter is but old priest writ large! Philosophic names indicate in reality no advance in our knowledge. Indeed, it sometimes seems that for a philosophy we require to add yet more facts to that "swelling heap" which is in Mr. Williams' eyes already so enormous. Or rather, we should perhaps say, we need new observations to correct the old, since so many of the facts handed down to us are found, on examination, to be pure fictions, or so mingled with fiction that they are useless as a basis of philosophy. So true is it always that the eye sees only what it is prepared to see, and examines objects always through a haze of theory.

Mr. Williams is too impatient of "the vast masses of chaotic facts" which patient observers have gathered from the spacious field of nature. He forgets that we have endured philosophies of medicine for many centuries, and we may well bear with a century or two of "facts" before we raise much objection to them. The advances of the past century, indeed, have been due simply to this abandonment of "philosophy" and the patient observation and registration of fact, and for a time at least we must regard as retrograde any hasty prosecution of philosophic generalisation. The human mind is ever ready to read its facts in the light of its philosophy. The author himself furnishes many examples of this. His description, for example, on p. 106, of a patient suffering from myoma is a grouping of quite fanciful facts, to account for which the author has a handy theory. His theory (p. 123)—that myomas arise during the decline of sexual activity—makes him assume as a fact that sexual activity is declining before a woman reaches her fortieth year; while his favourite theory (*passim*)—that tumours arise from "embryonic rests"—makes him depreciate the fact that uterine tumours are usually a phenomenon of adult life.

We do not advance in knowledge by the aid of such theories. To say that cancer is due to the awakening of potentialities in cells does not carry us a step forward. To attribute "erosions" to developmental irregularities; to find cancer specially attacking patients who manifest "exuberant general health and nutritive vigour;" to regard tuberculous disease of the uterus as possibly of commoner occurrence even than cancer; to regard the calcification of myoma as "due to the presence of heterotopic sclerogenous elements of congenital origin;" to find the ovaries always diseased in myoma of the uterus, are all illustrations of a too ready disposition to adopt theories and facts which are, to say the least, without sufficient basis, and utterly destroy our faith in any philosophy built upon them.

The same faults are evident in the chapters on "clinical features," diagnosis, and treatment. Their value is little, simply because they are not based on the patient observation of actual cases, but are the result of reading in many books. And even the reading is characterised by extent more than accuracy. Many names of authors are given, but hardly a reference to a source where the reader might verify the statements made. And either Mr. Williams or his proof-reader takes undue liberties with some of the names. All gynæcologists, for example, are familiar with the name of Matthews Duncan, but perhaps a surgeon may be excused when he transforms him into Mathews Duncan, or even bisects him into Mathews, Duncan, and puts him as two individuals in a list of names.

Altogether, we cannot recommend this book as a successful attempt at the full discussion of the pathology, diagnosis, and treatment of uterine tumours, and we would advise the student rather to resort to the works of professed gynæcologists; and especially for pathology to Gebhard's excellent treatise, and for the whole subject to the easily accessible *Handbuch* of Veit. For the operations which are so feebly dealt with in this book the reader should consult the works of Howard Kelly, of Doyen, and of Landau, where he will find the practical details which can only be filled in by the experienced operator.

Gynæcological Operations, exclusive of those interfering with the Peritoneal Cavity. By Skene Keith, M.B., F.R.C.S.Ed. Illustrated with Forty-four Figures. Edinburgh: Young J. Pentland. 1900.

It is hardly possible to review this book seriously. Few, indeed, except a reviewer, would care to go beyond the "introductory" chapter, in which the preparation necessary for gynæcological operations is once for all described to Mr. Skene Keith's satisfaction.

"One has really to make some stand against extreme notions," and, accordingly, Mr. Skene Keith protests against the use of the brush for cleansing the hands. "If anyone really requires to wash his hands for fifteen minutes before operating, he must have made them unnaturally dirty. We are not such dirty mortals." Under "we" Mr. Keith, of course, politely includes his readers! "Ordinary people ought not to require a brush." "Ordinary dirt goes off quickly with ordinary soap and running water." "Shaving the pubes and vulva is quite unnecessary." "It really seems as if it were supposed that the old and well-known *vis medicatrix naturæ* had gone out of fashion, or had become worn out; or that most patients of twenty years or so ago died, an occasional one surviving to encourage the others." Really! With this new version of Admiral Byng, we see Mr. Skene Keith in his satirical vein!

We are all acquainted with the story of the Highlander—or was it a Cockney?—who concluded that the man who needed a bath every day must be an extremely dirty fellow, but we could hardly have expected him to turn up as a teacher of gynæcology, with nothing but a frivolous sneer at the sincere and painstaking efforts of others after a perfected asepsis.

A Manual of the Diagnosis and Treatment of the Diseases of the Eye. By EDWARD JACKSON, A.M., M.D. With 178 Illustrations and 2 Coloured Plates. London and Philadelphia: W. B. Saunders & Co. 1900.

To British ophthalmologists, Dr. Jackson is known chiefly by his work upon the dioptrics of the eye, and to those who are acquainted with his researches and writings in that department this volume will be interesting; for, although the preface tells us that the book is primarily intended for the use of beginners in ophthalmology, it affords the opportunity to all of learning the opinions which Dr. Jackson's experience in the other departments of eye practice has taught him to hold, and the methods of treatment on which he places reliance. As an introductory text-book on the diseases of the eye it fulfils its purpose admirably, and has been written with care and clearness of expression. The different chapters are arranged on pretty much the same lines as we are accustomed to in similar works, the last three chapters being devoted to a consideration of the chief remedial agents used in eye practice, to the methods of performing the more common operations, and to the ocular symptoms and lesions connected with general disease. The special feature in a manual of this size is the fairly extensive bibliography which is added to each chapter.

Like the majority of American ophthalmologists, Dr. Jackson is a firm believer in the necessity for using a mydriatic before estimating the refraction, and he places most reliance on the results obtained by skiascopy. He recommends early optical correction in squint, and has ordered glasses for constant use in children under 3 years of age. He also advises operation at as early an age as a complete investigation of the case can be made, which is rarely before the age of 5 or 6 years. In discussing myopia, he points out the fact that astigmatism is a very important element in its causation, although the two most important factors he recognises in its production are softening of the sclera and pressure of the extra-ocular muscles in near work. Scarcely any mention is made of other factors, such as efficient light supply, limitation of the amount of near work, attention to the school books of children, &c., which surely play a large part in securing comfortable vision with freedom from eye-strain, and which, if neglected, are specially hurtful and prone to help on the onset of myopia or hinder its arrest. In obstruction of the nasal duct, Dr. Jackson speaks with approval of the use of the largest probe which can be readily passed after slitting the upper canaliculus, but unlike Theobald, who advises the regular passage of such probes at gradually lengthening intervals, he recommends the wearing of a large style for some time instead of the repeated use of the probe. In glaucoma he urges iridectomy in preference to all other methods of treatment, and in senile cataract he, in most cases, operates by simple extraction. In high myopia he is favourably impressed by the results to be obtained by removing the crystalline lens. In other respects his methods of treatment are little different from those generally advocated. In American text-books we have accustomed ourselves to expect illustrations of a high class. In this work the illustrations in the text are fairly good for the most part, but the coloured plates are distinctly inferior.

Studies in the Psychology of Sex. By HAVELOCK ELLIS. Philadelphia: The F. A. Davis Company. 1901.

THE sexual instinct has for its ultimate object the perpetuation of the species, and as a means to that end its exercise is associated with a feeling of pleasurability. In any code of sexual morality these two accompaniments, the immediate and the remote, ought to have due and proportionate regard. The truly moral person would, while at the same time not denying the desirability of the former, attach a very much greater value to the latter. Will anyone affirm that this is the prevailing attitude of mind in civilised society at the present time? The sense of proportion, for some reason, has apparently been lost, and the undue regard which has been, and is, attached to the immediately pleasurable in the exercise of the sexual functions has been productive of an enormous amount of unhappiness and degradation of character. Morality, the sexual included, tends like other human characteristics to become in process of time more and more a matter of medicine, and it almost seems as if it would ultimately become as completely laicised as the treatment of the physical ills.

There is, undoubtedly, much in Dr. Ellis's writings that is scientifically interesting and worthy of careful study by the medical man. The first three chapters of this volume, treating of the evolution of modesty and periodicity, deal with physiological aspects of the sex function, the latter three with what may be regarded as departures from the normal. We have endeavoured to find something of the nature of a definition of normal sexuality in this book, but the only attempt at this, so far as we can ascertain, is contained in an appendix for which Mr. F. H. Perry-Coste, B.Sc. (Lond.), is responsible. His arguments are based on personal observation, and we must confess to finding them very unconvincing. He starts with the assumption that "celibacy is profoundly unnatural, and is, therefore, a physical—as well as an emotional and intellectual—abnormality." What is his idea of normality? The object of sex-function, so far as the male human is concerned, is, according to him, "to maintain himself in perfect physiological equilibrium;" propagation of species has apparently no place in his scheme, or is merely a disturbing factor which has to be taken into account. How often in this climate, it is asked, should a man have sexual connection with his wife? Let no man fail to register a bare minimum of "37 embraces annually," or woe betide his "perfect physiological equlibrium," and let him bear in mind that, to use the words of this self-confident writer, "it is obvious that the necessary frequency should be greater than 37 times annually." It should be some multiple of 37, but whether 2, 3, 4, or 5, the data in hand do not enable him to suggest. Mr. Perry-Coste does not tell us at what age this ought to be the accepted standard, but to be logical and consistent it should come into force on the appearance of the sexual function, and equally, a female being an inseparable agent in sex, it ought to apply as much to women as to men. The ordinary human animal needs something quite the opposite of encouragement in the matter of sexual gratification, and the quasi-scientific sanction of indulgence, issued under the authority of Dr. Ellis's name, is one of the most objectionable features of the book.

It may reasonably be assumed that the publication of works dealing with problems of sex has some ultimate practical object in view, something which will in the end benefit humanity. Society, at least English society, is more than doubtful about the effect of the indiscriminate distribution of books of this class. It has decreed that a previous volume of this series is not a fit publication, and hence this volume can only be procured from an American firm or a Watford house which gets its printing done in Leipzig. We feel strongly that the effects of such books on unformed or ignorant, not to say pornographically inclined, minds must be pernicious and demoralising in the extreme; and equally are we convinced that there is no great difficulty in procuring copies in spite of the veto placed upon them.

A Treatise on Mental Diseases based upon the Lecture Course at the Johns Hopkins University, 1899, and Designed for the use of Practitioners and Students of Medicine. By HENRY J. BERKLEY, M.D. With Frontispiece, Lithographic Plates, and Illustrations in the Text. London: Henry Kimpton. 1901.

"THE absence from English medical literature of a comprehensive practical work on mental diseases" is given by the author as his reason for preparing this treatise on "all the principal forms of psychical disturbance." The bibliographical lists he has drawn up, as well as the words we have quoted, make us doubt whether Dr. Berkley is as familiar with British medical literature as he ought to be. Apart from this, however, the present work is a creditable one, well planned, well executed, and well illustrated. It consists of three parts. The first of these is on the gross and minute anatomy of the central nervous system. The second part is on general pathology, including the boundary lines between degenerative and non-degenerative types of insanity; the gross and minute morbid anatomy of insanity; diseases of the cerebral blood-vessels; and arterial anomalies in the insane. The third part treats of the clinical forms of mental disease, and begins with an introductory portion on classification and general etiology, symptomatology, and treatment. Next we have the special types of insanity arranged in various groups. Group I contains the idiopathic insanities—those without ascertainable alteration of the brain substance (mania, melancholia, mental stupor, and secondary dementia). Group II includes insanities consecutive to organic cerebral lesions (progressive paralysis of the insane, syphilitic and senile insanities, and organic dementia). Under this group we find three sub-groups:—(*a*) Insanities due to intoxications (alcohol, opium, &c.); (*b*) those due to bacterial poisoning (puerperal, febrile, &c.); and (*c*) those due to autogenic poisoning (uræmia, diabetes, &c.). Group III includes insanities of the psychical degenerate (paranoia and periodic insanities), and under it is a sub-group of psychoses associated with constitutional neuroses (epilepsy, neurasthenia, and hysteria). Group IV consists of states of arrested psychical development (idiocy, cretinism, and imbecility). Group V, the last of the series, is made up of the psychoses of childhood. Something might be said against this classification, but, it may be asked, who has ever produced a satisfactory classification of insanities?

This is a most interesting book. The reader may open it at almost any page and expect to find something to attract his attention. The beautiful illustrations are a notable feature of the work.

A Practical Guide to the Public Health Acts: A Vade Mecum for Officers of Health and Inspectors of Nuisances. By THOS. WHITESIDE HIME, B.A., M.B. Second, much Enlarged Edition. London: Baillière, Tindall & Cox. 1901.

THIS volume by Dr. Hime will prove to be a most serviceable book of reference, not only to the public health specialist, but also to the general practitioner who frequently wishes to know the legal bearings of problems brought before him in his daily practice. The editor claims no originality in the present work, but has endeavoured to produce in a handy form such portions of the Public Health Act, 1875, as specially concern the medical officer of health and inspector of nuisances, and abstracts of the Sale of Food and Drugs Act, the River Pollution Act, the Canal Boat Act, the Factory Act, the Infant Life Protection Act, &c.

Matters covered by these Acts are constantly having to be dealt with by general practitioners, who will welcome a volume like the present, which can give references and guidance. The Public Health Act of 1875 applies only to England, and so the volume is more likely to be of service to practitioners and medical officers of health in England. An excellent index renders the work easy of reference, and we think that, in making this compilation, Dr. Hime has rendered good service to the profession.

Clinical Examination of the Urine and Urinary Diagnosis. By J. BERGEN OGDEN, M.D. Philadelphia: W. B. Saunders & Co. 1900.

"THE design of this work is to present in as concise a manner as possible the chemistry of the urine and its relation to physiologic processes; the most approved working methods, both qualitative and quantitative; the diagnosis of diseases and disturbances of the kidneys and urinary passages." Here we have, in the author's own words, the scope of the book; and his "chief object," he adds, "in presenting this work is to furnish the student and practitioner with a more complete clinical guide to urinary diagnosis than I have heretofore met with in a single volume." The purpose of the book cannot but be commended, and we have to congratulate Dr. Ogden on the way it has been carried out.

The subject has been treated under two main divisions, the former dealing with the chemistry of the urine, and the latter with the condition of the urine from the clinical point of view. In the first division we have a detailed account of the urinary constituents, both in health and in disease, and of their physiological and pathological significance. The chemical tests, too, are gone into with much useful detail, such as only one who himself is familiar with the processes he describes can supply. In the second division there is a careful description of the features of the urine peculiar to each different form of Bright's disease. This part of the subject is one to which formerly too little attention has been paid, and the author has shown how its careful consideration can so greatly aid in the differential diagnosis of the various forms of nephritis, as well as in the more exact diagnosis of certain other diseases.

The book is well printed, and very well illustrated, and we have every confidence in recommending it to our readers.

"First Aid" to the Injured and Sick. An Ambulance Handbook. By F. I. WARWICK and A. C. TUNSTALL. Bristol: John Wright & Co. 1901.

MORE than one-fourth of this book is concerned with anatomy and physiology, and this part contains information which no medical student would think trifling in amount. The remainder of the volume deals with the subjects usually found in such "handbooks," and we may say that the matter is well done, while the illustrations fully elucidate the text. There is, however, a slight discrepancy seen in Figs. 86 and 87 on p. 110, where compression is made with the fingers, while in the text (on p. 108) we are told that the thumb should be used. In Fig. 15 (p. 28) also the gall-bladder is placed at the falciform ligament; and, on p. 142, the sling for fractured clavicle passes over the injured bone. Occasionally, technical terms (*e.g.*, "evert") are used, of which some explanation might be required by the lay reader.

The work is intended as a "concise and fairly well illustrated text-book" on the subject, and is designed to meet a want felt by the authors in lecturing. That it fulfils its purpose we affirm without hesitation, and, in spite of minor imperfections, we predict success for a book so eminently practical, and at the same time so readable.

Oral Sepsis as a Cause of Septic Gastritis, Toxic Neuritis, and other Septic Conditions. With Illustrative Cases. By WILLIAM HUNTER, M.D., F.R.C.P. London: Cassell & Co., Limited. 1901.

THIS little work is a reprint of an article which appeared in the *Practitioner* for December, 1900. The author has recently shown how much importance he attaches to septic conditions of the mouth in the etiology of pernicious anæmia, and he now discusses in detail the relation of these conditions to various other diseases. He points out that in ordinary dental caries there is a mixed infection, including pathogenic as well as harmless organisms. Consequently, a person with carious teeth not only has pathogenic organisms constantly present in the mouth, but is continually receiving into his stomach, week after week, and perhaps year after year, the same dangerous microbes. Dr. Hunter finds that the result is not limited to fermentation of food substances, but that infection of the mucous membrane of the stomach may take place, with subsequent chronic catarrh and glandular atrophy. Various other effects of chronic oral sepsis are alluded to, and cases are given to show the benefit that may accrue from thorough disinfection of the mouth. The essay is of value in calling attention to a too much neglected source of disease.

Diseases of the Thyroid Gland. Part I: Myxœdema and Cretinism. By GEORGE R. MURRAY, M.A., M.D. Camb., F.R.C.P. With Illustrations. London: H. K. Lewis. 1900.

IT is not always that we are provided with books on particular subjects by the men who are best qualified to write them, but surely nothing could be more appropriate than a work on the thyroid gland from the pen of Dr. George Murray. The present volume is the first of the two parts into which Dr. Murray's treatise is divided, and deals, first, with the structure and functions of the thyroid gland, secondly, with myxœdema, and, thirdly, with cretinism. The second part, which has yet to appear, is to be devoted to goitre, exophthalmic goitre, and other diseases of the thyroid. A considerable part of the matter of the present volume has been given to the profession already in Dr. Murray's Goulstonian lectures of 1899, or otherwise. It is in great measure based upon the author's own work and wide experience, and it displays his good literary style and powers of lucid and accurate description. The volume can scarcely be described as an exhaustive monograph, but it contains almost everything that the practitioner will desire to know about myxœdema and cretinism, those diseases, which, though so recently understood, and, in the case of myxœdema, so recently known, are now, as a consequence of Dr. Murray's fertile suggestion, no longer incurable, but highly amenable to treatment, if not actually altogether curable.

Laryngeal Phthisis, or Consumption of the Throat. By RICHARD LAKE, F.R.C.S. London: Rebman, Limited. 1901.

MOST medical practitioners in this country consider that after prescribing an inhalation, spray, or injection, they have done all that can be done locally for laryngeal phthisis. The fact that a cure or amelioration is not infrequently obtainable by intra-laryngeal surgery has not been sufficiently recognised. This little volume should assist in arousing us from our present attitude of inaction, and should encourage us to adopt, in suitable cases, more energetic measures than those heretofore generally employed.

The author discusses in short sections the predisposing causes, symptoms, objective appearances, liability to infection of different parts of the larynx, primary laryngeal tuberculosis, &c. Treatment is dealt with more fully, the relative value of various local medicaments and surgical procedures being considered. Mr. Lake is to be congratulated upon his excellent results, namely, 48 "cures" in 329 cases.

We trust that in future editions the arrangement of this book will be improved, *e.g.*, we would suggest that the description of the instruments precede that of the operation, and that an enumeration of the indications and contra-indications of the various modes of treatment be given. We also believe that the whole subject might, with advantage, be treated in greater detail than has been here attempted. The author's ability and experience qualify him to undertake the production of an English counterpart to such works as Heryng's *Larynxphthise* and Hélary's *Tuberculose Laryngée.*

A number of coloured illustrations, depicting various laryngoscopic appearances, add greatly to the value of this readable little volume.

Registrar's Reports for the Middlesex Hospital for 1898. London: H. K. Lewis. 1899.

THIS volume of *Reports* gives in the form of tables the work done in the various departments of the hospital during the year. In addition, there are *résumés* of the more important cases treated and of the *post-mortem* examinations performed. As a clinical record, and for statistical purposes, the volume is of value.

Anleitung zur Diagnose und Therapie der Kehlkopf-, Nasen-, und Ohrenkrankheiten. Von DR. RICHARD KAYSER, in Breslau. Mit 121 Abbildungen. Berlin: S. Karger. 1901.

THIS little book is intended for practising physicians who are desirous of treating diseases of the larynx, nose and ear. The descriptions are clear and concise, and plentiful use is made of drawings and diagrams for the purpose of rendering the work more acceptable. The work has, in general, been well done, and is for the most part well up to date. There are, however, some remarkable omissions. The most important of these are in connection with anæsthesia. Thus, there is no mention made of nitrous oxide gas as an anæsthetic for the removal of adenoids. Such an omission is very remarkable. Again, the most satisfactory methods of using cocaine and eucaine locally are not given.

Voltolini's method of removing papillomata in the larynx, by rubbing a small sponge to and fro over them, is not mentioned, though it is occasionally the most satisfactory.

The treatment of suppurating catarrh of the middle ear is given very well, but here also there is the omission of the dry method of treatment by gauze drains, a method which is often satisfactory, and is finding considerable acceptance in recent times.

In spite of these omissions, however, the book is a good one. The German is clear and elegant, and the work will be of great use to those practitioners who are acquainted with that language.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

NERVOUS DISEASES AND INSANITY.

By Dr. R. S. STEWART.

The Plantar Reflex in General Paralysis. By Ardin-Denteil and Rouviere (*Archives de Neurologie*, December, 1900).—This reflex is more often diminished than exaggerated. Sometimes it is normal, and very rarely it is abolished. In a certain number of cases it undergoes an alteration which recalls that described by Babinski under the name of the phenomenon of the toes. The extension of the toes, though distinctly marked, is in general slight. The movement is much more pronounced in the four last toes, the great toe remaining immobile. No relation is found to exist between the plantar reflex and that of the patellar tendon in true general paralysis; but, on the contrary, in syphilitic general paralysis, exaggeration of the patellar reflex is usually found to be associated with extensor movements of the toes. In the first stage of the disease exaggeration of the reflex is more frequent, but in the second and third diminution is the rule.

Delirium Consecutive to Grave Burns. By Regis (*Archives de Neurologie*, December, 1900).—Grave and extensive burns, in the opinion of this observer, may give rise to psychical troubles which manifest themselves under the form of mental confusion with delirium of dream-like type, and this he regards as another proof that this type of delirium is characteristic of intoxications howsoever they originate.

Mental Confusion. By Roubinovitch and Vlavianos (*Archives de Neurologie*, December, 1900).—In a case of this affection occurring as a result of purulent endometritis, and terminating rapidly, the following changes were observed in the cerebral cortex:—Distension and rounding of the large pyramidal cells; cellular chromatolysis with disappearance, or a dusty aspect, of the chromatophile grains; displacement of the nucleus towards the periphery of the cell, and sometimes its complete disappearance; absence of the prolongations of the cells so affected, and unusual increase of the nuclei of the neuroglia.

Tabes with Blindness. By Marie and Switalski (*Archives de Neurologie*, December, 1900).—These writers recognise two forms of this condition—tabes with papillary atrophy, and the papillary atrophy of tabetics. The first of these forms comprises the classic tabetics presenting in very marked fashion all the characteristic symptoms, with impairment of general nutrition. In the second, the appearance of the patients is different. They are well nourished, have an air of health, and present no trophic troubles, and the clinical symptoms are slightly developed. It is a case not so much of essentially distinct morbid varieties, but of different localisation of one and the same process, or perhaps even of different processes.

Pathological Anatomy and Physiology of Tabes. By Soury (*Archives de Neurologie*, January and February, 1901).—The tabetic affection of the posterior columns of the cord is not, in this observer's opinion, a systematic affection in the ordinary sense of the word. It is more or less a systematic affection of the posterior roots—an exogenous affection of the posterior columns—or, in other words, a degeneration of the intramedullary distribution of the centripetal protoneuron. The disease, further, ought to be regarded as a general degeneration of the nervous system, and not merely as a disease of the spinal cord. The peripheral nerves, cord, and brain may be successively or simultaneously attacked, according to the nature of the pathogenic cause, and the state, congenital or acquired, of resistance of the different provinces of the nerve-axis.

Decrease of General Paralysis of the Insane in England. By Stewart (*Journal of Mental Science*, January, 1901).—While the fifteen years ending 1892 were marked by a progressive increase of this disease, the succeeding five years were characterised by an opposite tendency. This applies to all classes of society, with the exception of that from which the private male paralytic is drawn. This alteration of type in mental affections occurs only in England, for in Scotland and Ireland, and on the Continent, the tendency is still towards increase, and it is attributed to improvement in the conditions of life in urban communities from which the great majority of these cases are drawn.

DISEASES OF THE SKIN.

By W. R. JACK, M.D., B.Sc.

Cutaneous Tubercular Eruptions.—In his report to the fourth International Congress of Dermatology on this subject (*British Journal of Dermatology*, November, 1900), Colcott Fox discusses the eruptions ("tuberculides" of Darier) which are found in strikingly frequent association with tuberculosis. After mention of the definitely tubercular eruptions, he describes at greater length the characters of the following affections:—

1. *Lichen scrofulosorum.*—In this disease tuberculous complications are very frequent, and the injection of tuberculin produces a local reaction in the majority of cases. The eruption is sometimes grouped around nodules of lupus. The histological features are very suggestive of tuberculosis, if not decisive. The bacillus has not been found, with rare exceptions, but in two instances inoculation has produced tuberculosis in animals.

2. *Erythème induré des scrofuleux* (Bazin) is distinguished by the formation of indolent nodosities, particularly on the legs, terminating in regression with atrophy, or in ulceration of the superficial layers of the skin. It is more or less frequently associated with tuberculous adenopathies. It is usually bilateral, and presents analogies with the tuberculous gumma, but does not occasion secondary glandular infection or cause lupus. Histologically, caseous degenerations have been found. Thibierge, and Fox himself, have found lesions suggestive of tubercle, and have been successful in the inoculation of guinea-pigs. The bacillus has not been detected.

3. Papular and nodular "tuberculides" of intermediate size have been described under a great variety of names, as folliculitis, hydradenitis, acne scrofulosorum, &c. They occur principally between the ages of 20 and 40.

The essential lesion is a small indolent granuloma, tending to central softening, and leaving scars. The lesions are notably symmetrical, and affect peripheral parts by preference. Pustulation may or may not be present. Their elements do not spread infectively in the skin. Several types of lesion may coexist —*e.g.*, an acneiform eruption with gumma-like nodules on the buttocks—such conditions frequently resembling syphilides. Their connection with tuberculosis is undeniable, and adenopathy is the most frequent of the tubercular lesions. Histologically, some present the characters of simple inflammation; others show epithelioid and giant-cells. The bacillus has not been found, and inoculation experiments have proved unsuccessful for the most part.

In all these groups there is evidence of a tuberculous origin, and they are evidently not the result of a cachexia or of secondary change on a soil prepared by tuberculous infection. Hallopeau's theory of their production by toxins is negatived by the proof of successful inoculations; but, if the affections be due to bacilli coming from a distance in the blood-stream, then the bacilli must be few, of little virulence, and easily killed, and thus the indecisive nature of the pathological changes would be accounted for.

The discussion on the subject at the Congress is reported in the previous number of the same journal. Boeck held that the distinction between the ordinary forms of tuberculosis of the skin and the tuberculides was not so much the presence or absence of giant-cells or bacilli as the mode of onset and the distribution of the affection, the symmetry of the eruptions being the best criterion. As the line of demarcation was not precise, there was no reason for placing the tuberculides in a distinct group. Campana thought it impossible to distinguish a tuberculide caused by toxins from one caused by the bacillus. Tuberculosis predisposed to slowly progressing eruptions of external origin, which should be regarded not as tuberculosis, but as resulting from the scrofulous predisposition. Darier said that the tuberculides were found in persons known to be, or open to the suspicion of being, infected with the bacillus, which, however, with few exceptions, had not been discovered in the lesions. The theory that they were due to multiple embolism produced by bacilli of low virulence, which were easily killed, would account for all the facts, but must be regarded for the present as only a hypothesis. The reporter (Whitfield) sums up the results of the discussion as follows:—

1. Most observers agree that the tuberculides stand in a directly dependent relationship to the primary tubercular disease.
2. Some hold that a distinction may be drawn between toxic tuberculides and those directly due to the bacillus; but the majority prefers the explanation of embolism with bacilli of low virulence for all cases.
3. There is still disagreement as to the nature of lupus erythematosus, the French school in general considering it as a tuberculide.

Erythrodermie Pityriasique en Plaques Disséminées.—White (*Journal of Cutaneous and Genito-Urinary Diseases*, December, 1900) reports the following cases:—

A man, aged 38, had first noted twelve years ago, in winter, the appearance of red spots on the legs, which disappeared in spring. They recurred every winter, gradually extending, and were always absent in summer. They caused no subjective disturbance. When seen, large, red, irregularly circular areas were present on the face and neck. They were smooth, not elevated, and not infiltrated. They were very slightly scaly. The redness disappeared on pressure. On the trunk, the areas were light brown in colour in front and laterally, slightly redder on the back. There were a few patches on the thighs, and many on the legs, where they were slightly scaly. Only a few were present on the arms. There was no disturbance of the functions of the skin. In successive years the spots occupied the same positions, and they disappeared uniformly, never by central involution. After excluding psoriasis, seborrhoic eczema, pityriasis rosea, lupus erythematosus, and symptomatic erythema, White finds in Brocq's *erythrodermie pityriasique* the only similar recorded case.

He give the details, also, of a second case, which occurred about the same time in a man of 26, who had been affected for two years. The characters of the eruption were somewhat similar, but there was a greater tendency to the formation of very fine scales. On microscopic examination, in both cases the stratum lucidum was found to be absent, and the granular layer very nearly so, while there was œdema of the rete malpighii, the cells of which were distorted and atrophied. The degree of inflammation was greater in the second more recent case. External remedies, and the use of arsenic internally, appeared to have little effect upon the course of either.

Blastomycosis of the Skin.—The January number of the *Journal of Cutaneous and Genito-Urinary Diseases* is almost entirely occupied with this subject. Dwyer narrates the case of a woman, aged 55, who, after two months of *malaise*, developed a painless eruption on the backs of the hands and on the face, which became raw and warty, soft to the touch, and of a fungoid appearance, exuding a sticky yellowish fluid when squeezed. The patches on the hands were made up of small papillary elevations, raised about a sixteenth of an inch, and arranged in clusters separated by tense and shining skin, which was here and there perforated by minute discharging pustules. The patches were dull red in colour, and most elevated at the edges. On the cheek there was a spongy verrucose mass, easily bleeding, and discharging constantly. The base was firm and infiltrated, extending a quarter of an inch beyond the central mass, which was crusted on the surface, but without the crateriform tendency shown on the hands. The facial lesion was typical of yaws; but that on the hands was less so, as the crusting was much less, and there was no history of exposure. In spite of local and general treatment, the lesions advanced, until sodium iodide in increasing doses was employed, and iodide of lead ointment locally. Rapid improvement and ultimate quiescence of the lesions followed. Microscopic examination showed hypertrophy of the epidermis, miliary abscesses in the epidermis and corium, nodules consisting of giant-cells surrounded by epithelioid and plasma cells, and the presence of blastomycetes in various stages of devolopment.

Montgomery also reports three cases:—1. A man, aged 45, otherwise healthy, who had been troubled for a year by chapping of the lower lip, which had crusted a month previously in one spot. When the crust was pulled off a small pimple developed, which rapidly increased in size till it formed a rounded tumour, about three-quarters of an inch in diameter and two-fifths of an inch in height. Its surface was pinkish, coarsely granular, and made up of papillary projections, from the fissures between which there was slight hæmorrhage. There was no ulceration, but a slight serous discharge. The base was not indurated. This and the rapidity of growth excluded epithelioma, nor did the tumour resemble a gumma. As the man was in constant contact with the dust of grain, a vegetable fungus was suspected. Iodide of potassium, in full doses, was given for four months, but the tumour continued to extend, and was ultimately removed by operation. Cultures were made, and an aerobic fungus was obtained, growing freely in all media, and showing a branching mycelium, from which small spherical forms arose by budding. There was hyperplasia of the layer of prickle-cells, in which miliary abscesses were found. Giant-cells were present in the cutis, but neither tubercle bacilli nor blastomycetes were to be found. Montgomery regards the fungus as the cause of the disease, as (1) it has not been found to exist as a contamination of cultures; (2) the histopathology of the affection is the same as that of disease proved to be caused by similar fungi; (3) a portion of the tumour produced in a guinea-pig an abscess from which the fungus was cultivated; (4) inability to find it in sections does not disprove its etiological position, as blastomycetes probably form spores, and may be present in solid tissue in this form, resembling nuclear detritus.

2. A man, aged 38, who in 1894 developed a warty crusted eruption on the back of the hand, which extended for a year, but healed after a course of mud-baths, leaving a smooth red scar. Before it was well, a wart was

removed from the neck, and a similar process spread from this point over the left side of the face, healing centrally at the same time, and leaving a firm reddened scar. The condition resembled a verrucous tuberculosis. In August, 1899, in spite of all sorts of local applications, it had spread to the nose, left orbit, and both eyelids. The borders were elevated and covered with papilliform projections, the base being soft. Four months later iodide of potassium was begun, and given in large doses. The progress of the disease was arrested, and the warty growth replaced by a smooth red scar. Examination of the tissue and pus constantly revealed an organism with a clear, refractive, doubly contoured capsule, and a central granular protoplasm, proliferating by budding. Cultures were unsuccessful. Histologically the characters were those of blastomycetic infection, and blastomycetes were found in abundance.

3. A man, aged 33, otherwise healthy, first seen in 1894. The affected surface occupied the whole interscapular region, and presented similar characters. Attempts at cultures yielded nothing but pus organisms. The abundance of giant-cells led to a diagnosis of probable cutaneous tuberculosis. Six weeks later the left elbow became swollen, hot, and painful, but this disappeared in a few days. A week later there was a severe rigor, with high temperature, which lasted for about five days, and two raised, red, œdematous swellings appeared below the left scapula. They were circumscribed and semi-fluctuant. One of them healed slowly, the other became like the original patch. In the next six months he had seven or eight similar attacks, followed by further lesions, which, for the most part, assumed the warty appearance of the first. He died in 1895 of acute miliary tuberculosis. During the period of observation culture experiments were unsuccessful, and animal inoculations produced no evidence of tuberculosis. Blastomycosis was not then considered, but upon recent revision of the sections that were preserved, blastomycetes were found to be numerous in most of them. The cutaneous affection, then, would appear to have been primarily blastomycetic dermatitis, and not tuberculosis.

Hyde reports two cases, one in a man, aged 33, in whom the left cheek and temple were affected, and rapid improvement took place under iodide of potassium; and one in a man of 47, where there was extensive affection of the right fore-arm, also yielding to similar treatment. In both, blastomycetes were found abundantly in the fresh tissues, and the histological appearances were those of the disease. He gives a *résumé* of the literature of the subject, from which it appears that the male is more liable than the female, that the age of predilection is between 30 and 60, and the occupation various. There has been no instance among the recorded cases of prior venereal disease, and a strumous or tubercular family history has only thrice been noted. The face is most frequently attacked, but the lesions may occur at any part. Iodide of potassium, among drugs, has secured the greatest amount of improvement, but has led to absolute cure in no case. The disease has not recurred after operation. Two cases have ended fatally.

The type of the lesion is practically uniform, and does not resemble that of syphilis or epithelioma. It differs from tuberculosis verrucosa in being usually multiple, in attacking the face most frequently, and in showing marked improvement under potassium iodide, which, however, has not yet led to positive cure. The evidence, on the whole, goes to show that the blastomyces stands in causative and not accidental relationship to the disease. As to the mode of infection, the recorded cases point to an intrusion of the organism first upon the hand or face, and transference thence to other points of the surface. The organism is double-contoured and vacuolated, proliferating by budding. It is not always of similar size, whether actively growing or mature, differing in this respect upon different media and in different cases. It is found mainly in or near miliary abscesses and in the rete malpighii, sometimes in giant-cells, at other times free in the connective tissue. It induces hyperplasia of the epithelium, with overgrowth of the rete-elements towards the corium, and secondary inflammatory changes in all parts of the skin.

Books, Pamphlets, &c., Received.

A Text-book of Histology, by Dr. Philipp Stöhr; Translated by Dr. Emma Bilstein; Edited by Dr. Alfred Schaper. With 301 Illustrations. London: Rebman, Limited. 1901. (14s. net.)

Manual of Diseases of the Ear, by Thomas Barr, M.D. Third Edition, with 236 Illustrations. Glasgow: James Maclehose & Sons. 1901.

Medico-Surgical Aspects of the Spanish-American War, by Dr. Nicholas Senn. Chicago: American Medical Association Press. 1900.

The Asphyxial Factor in Anæsthesia, by H. Bellamy Gardner, M.R.C.S. Eng. and L.R.C.P. Lond. London: Baillière, Tindall & Cox. 1901. (3s. net.)

Diseases of the Nose and Throat, by F. de Havilland Hall, M.D., and Herbert Tilley, M.D. Second Edition, with 2 Coloured Plates and 80 Illustrations. London: H. K. Lewis. 1901. (10s. 6d.)

Text-book of Materia Medica for Nurses, compiled by Lavinia L. Dock. London and New York: G. P. Putnam's Sons. 1900. (6s.)

Index of Symptoms as a Clue to Diagnosis, by Ralph Winnington Leftwich, M.D. Second Edition. London: Smith, Elder & Co. 1901. (6s.)

Infant Feeding in its Relation to Health and Disease, by Louis Fischer, M.D. With 52 Illustrations and 23 Charts and Tables, mostly original. Philadelphia: F. A. Davis Company. 1901. ($1·50 net.)

Transactions of the Society of Anæsthetists. Vol. III. London: The Medical Publishing Co., Limited. 1900.

The Medical Annual: a Year-book of Treatment and Practitioner's Index. Nineteenth Year. Bristol: John Wright & Co. 1901.

Obstetric and Gynæcologic Nursing, by Edward P. Davis, A.M., M.D. Illustrated. London: W. B. Saunders & Company. 1901. (8s.)

A Text-book of Diseases of the Nose and Throat, by D. Braden Kyle, M.D. Second Edition, with 175 Illustrations, 23 of them in colours. London: W. B. Saunders & Co. 1900.

Practical Points in Nursing, by Emily A. M. Stoney. Second Edition, illustrated with 73 Engravings in the text and 8 Coloured and Half-Tone Plates. London: W. B. Saunders & Co. 1900. (7s. 6d.)

William Hunter, Anatomist, Physician, and Obstetrician (1718-1783), with Notices of his friends Cullen, Smellie, Fothergill, and Baillie, by R. Hingston Fox, M.D. London: H. K. Lewis. 1901. (4s. 6d. net.)

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FIVE WEEKS ENDING 23RD MARCH, 1901.

	WEEK ENDING				
	Feb. 23.	Mar. 2.	Mar. 9.	Mar. 16.	Mar. 23.
Mean temperature, . .	39·5°	43·1°	41·8°	46·4°	41·1°
Mean range of temperature between day and night, .	12·6°	10·9°	12·3°	11·7°	13·4°
Number of days on which rain fell, ...	3	6	7	3	2
Amount of rainfall, . ins.	0·04	1·13	0·83	0·11	0·17
Deaths registered, . . .	391	391	366	354	335
Death-rates, ...	27·0	27·0	25·3	24·4	23·1
Zymotic death-rates, . .	3·7	4·6	4·3	4·1	3·0
Pulmonary death-rates, .	8·6	9·2	7·2	8·3	7·4
DEATHS—					
Under 1 year, . . .	70	71	78	68	58
60 years and upwards, .	71	90	70	75	67
DEATHS FROM—					
Small-pox, ...	13	12	20	24	11
Measles, ...	4	2	1	2	...
Scarlet fever, ...	2	1	4	4	2
Diphtheria, . . .	2	...	...	1	3
Whooping-cough, . .	25	43	30	22	18
Fever, ...	2	...	1	3	3
Diarrhœa, ...	5	7	5	3	5
Croup and laryngitis, .	...	2	...	1	1
Bronchitis, pneumonia, and pleurisy, . . .	94	104	90	89	69
CASES REPORTED—					
Small-pox, ...	46	149	150	87	57
Diphtheria and membranous croup, ...	5	9	10	16	12
Erysipelas, . . .	16	23	28	19	19
Scarlet fever, . . .	68	98	75	54	73
Typhus fever, . . .	3	1	...	2	...
Enteric fever, . . .	10	21	16	9	12
Continued fever, . .	...	...	...	...	1
Puerperal fever, . .	2	2	...	3	2
Measles,* . . .	27	15	32	34	43

* Measles is not notifiable.

SANITARY DEPARTMENT,
GLASGOW, *27th March, 1901.*

THE

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ORIGINAL ARTICLES.

CASE OF IRREGULAR MOVEMENTS OF THE RIGHT HAND AND LEG IN A PATIENT OF MIDDLE AGE, APPARENTLY REFERABLE TO SLIGHT HEMIPLEGIA.[1]

By T. K. MONRO, M.A., M.D.,
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AND

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Mrs. M., æt. 46, housewife, was admitted to the Glasgow Royal Infirmary on 20th February, 1901, complaining of loss of memory, headache, irregular movements of the limbs, and general weakness.

The patient stated that the various symptoms commenced at the same time, about two years before admission. The irregular involuntary movements involved the right hand and leg. The headache was confined to a small area on the left side of the vertex, and was not so severe as to interfere with sleep. Memory became defective, but at some times the defect was much more troublesome than at others.

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[1] The patient was shown at a meeting of the Glasgow Medico-Chirurgical Society held on 5th April, 1901.

In the experience of Dr. Faulds, who saw her before admission, it was sometimes quite clear, and at other times quite a blank. When memory was most defective, speech would be lost, the loss setting in suddenly, and passing off again, perhaps, in a few days. The difficulty was not in articulation, but in thinking of the words to use. Patient believed that she first noticed her illness on rising one morning, and that the headache, disorder of movement, and weakness were all present at the first. Sensation was not affected, but from the commencement of her illness she had been unable to sew. She attributed her illness to the work and anxiety involved in nursing her husband, who had a broken leg. No relative had suffered from a similar ailment. The family history was good, and there was nothing of obvious importance in her past history, unless, perhaps, the fact that she had had five miscarriages, but these did not follow one another in succession, and there was no other evidence of syphilitic infection.

Condition of the limbs on admission.—There is involuntary movement of the right hand, but specially of the thumb, forefinger, and little finger. When the patient is sitting up in bed, the right shoulder is elevated with each respiration much more than the left; but when she is lying upon her back, no abnormal movement is detected in this limb. In the wrist and more distal joints, when the hand is at rest, with the four inner digits flexed, almost the only movement to be seen is in the thumb. Spontaneous movement in this part is chiefly apparent under the influence of its long muscles. The extensor secundi internodii pollicis is in frequent action, and, less frequently, the long flexor. Thus, occasionally the distal joint is flexed for an instant, but more frequently the movement is due to increased and diminished contraction of the extensor secundi internodii pollicis influencing the extended thumb. Occasionally there is adduction for an instant.

When the hand is placed passively in the prone position, with the thumb flexed into the palm, and the other digits flexed over it, the spontaneous movement ceases nearly, but not altogether, the movement that continues having the effect of elevating a little the three inner extensor tendons on the dorsum of the hand. When the hand is laid down prone, the inner digits may remain quiet for a time, but there is a tendency for the little finger to continue in an attitude of over-extension and abduction, but the abduction is diminished from time to time for an instant. Meanwhile, the middle three digits remain still.

When the hand is held up passively, the fingers tend to assume the interosseal position. The movements of the little finger are increased, and include not only abduction and adduction, but also flexion and extension at the metacarpo-phalangeal joint, and the middle three fingers tend to become slightly involved in the abnormal movements—chiefly flexion and extension at the metacarpo-phalangeal joints. It is probable that the small muscles, at least of the little finger, take part in the disorder.

The movements are quite irregular in time as well as in extent, and on different trials may be found to be at the rate of 24 to 48 per minute. Half a dozen movements may take place in rapid succession, and then there may be a pause for a few seconds. Many of the movements are rapid, but some are slow. When she is gripping tightly with the left hand, so that her attention is taken away from the right, then the right thumb is strongly extended and abducted, and the remaining digits are flexed at the metacarpo-phalangeal and inter-phalangeal joints, and extended at the distal inter-phalangeal joints. The same circumstances bring about an increase in the flexion and extension movements of the thumb, and may also induce well-marked similar movements in the index finger.

In the lower limb the movements are also quite irregular, but they are more unceasing than in the upper limb, and involve coarser muscles. Those that are more conspicuously implicated are the quadriceps extensor femoris, the external rotators of the thigh, and the muscles that act on the tendo Achillis. The flexors of the knee and the abductors of the thigh seem to be little, if at all, affected. The flexors of the ankle are affected distinctly, but not severely. The muscles that act upon the toes are very little affected. The movements of the quadriceps influence the position of the patella, but not of the whole limb. The calf muscles move the foot at the ankle, and the outward rotators tend to induce an attitude of eversion of the limb, which is maintained, with patient lying on her back, by the weight of the foot. The glutei are slightly involved.

Other facts noted after admission are as follows:—The girth of the right limbs is very slightly less than that of the left. There is no important change in the electrical reactions. The knee-jerks are exaggerated. A single passive extension of the tendo Achillis may give rise to several contractions of the calf muscles. The plantar reflex on both sides takes the form of extension of the great toe. Walking is slow, but not hemiplegic. The dynamometer shows in the right hand two kilos, and in the left fifteen (patient is naturally right-handed). The different forms of sensation, including the stereognostic sense, are unimpaired, and the left limbs and trunk muscles are not involved in the disordered movement. The sense of smell is quite absent on the left side. Visual acuteness—right eye, $\frac{5}{30}$; left, $\frac{5}{20}$. There is great contraction of both visual fields, but no hemianopsia. Slight nystagmiform movements on movement of the eyeballs. Relative flatness of right side of the face at rest, and on voluntary movement, but not on emotional movement. Tongue deviates very slightly to the right side. Otherwise, nothing abnormal in the state of the cranial nerves. Patient states that for two or three months before admission the urine would escape involuntarily. Constipation had been a feature of the illness; but after admission, when she began to get syrup of the iodide of iron, the bowels became relaxed, and control over the sphincter was partially lost. It was found, after admission, that the movements were absent during sleep, and that they were increased by attention.

After admission the patient rapidly improved, the change for the better being manifested particularly in the movements of the hand. There has been no disorder of speech, either aphasic or otherwise, except occasionally some hesitation through nervousness. Patient became unable to write when her illness set in, but is now able to do so. She has no headache, and there is no trouble with the bladder or bowels. Her power of walking has improved greatly. The strength of both hands has also improved, and the right hand is now the stronger of the two, as is natural with her. When she is resting, the movements of the fingers are slight and infrequent, and might almost escape notice, but they may be much more conspicuous when she walks. There is no tonic rigidity of the affected hand, and, indeed, this has not been a feature of the case. The involuntary movements of the leg occur when she is lying in bed, as well as on standing up, and involve chiefly the calf muscles, and, next to them, the quadriceps. The contractions of the calf muscles give rise to a kind of clonus, which is not strictly rhythmical, and which occurs from 120 to 140 times per minute. The great toe tends to be over-extended.

The slight paresis of the face is still recognisable. Both visual fields are still greatly reduced in all directions. The absence of the sense of smell on the left side is persistent, and, according to Dr. Macintyre, cannot be accounted for by any local condition in the nose.

The apex beat is in the sixth space, 4 inches from the middle line. The heart sounds are normal. The urine frequently contains a trace of albumen. Ophthalmoscopic examination reveals no disease.

The treatment was at first by syrup of the iodide of iron, with the addition of iodide of potassium. In the middle of March this was replaced by a mixture containing arsenic and strychnine.

Involuntary movements of the kind presented here are described under various names—such as post-hemiplegic chorea, athetosis, mobile spasm, &c.—and may or may not be preceded by an attack of hemiplegia. It is known that they follow a cerebral lesion in children less rarely than in adults, and that they result from cerebral softening more frequently than from cerebral hæmorrhage.

The paresis of the right face and limbs points to damage to the left hemisphere, and the recurring attacks of aphasia, and perhaps, too, the pain in the left side of the vertex, together with the other facts, suggest partial obstruction of the left middle cerebral artery. The weakness of the left limbs may possibly be due to the same arterial disease, but raises the question of a similar involvement of the right middle cerebral, and the same question is raised by the bilateral restriction of the visual fields. As the olfactory bulb is supplied by the anterior cerebral, it may be either that this vessel also is diseased, or that the lesion is in the internal carotid. The fact that the anterior cerebral supplies the paracentral lobule as well as the olfactory bulb may explain a very unusual feature in this case, namely, that the hand has not suffered much more than the leg; indeed, the disorder has been, and still is, more conspicuous in the lower than in the upper limb.

The age of the patient, the long duration taken in association with the slight degree of the symptoms, and the possibly bilateral distribution of slight vascular disease, suggest atheroma rather than syphilis.

SURGICAL DISEASES OF THE KIDNEY: THEIR GENERAL SYMPTOMATOLOGY AND PHYSICAL DIAGNOSIS—WITH ILLUSTRATIVE CASES.

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Surgeon, Glasgow Royal Infirmary.

(*Continued from* p. 254.)

For examinations of the ureters by catheters and sounds, the simple cystoscope of Grünfeld is the most useful in the female. It has been modified, and the method of employing it has been improved by Kelly and by Pawlik, and, as now used, it is undoubtedly the most convenient instrument. But for general observation of the bladder in both sexes, and for sounding or catheterism of the ureters in the male, the writer prefers the ureter cystoscope of Casper. This instrument consists of a large sized electro-cystoscope (*B*) (Figs. 3 and 4, p. 326) with a deep groove (*E*) on the side of the cystoscope on which

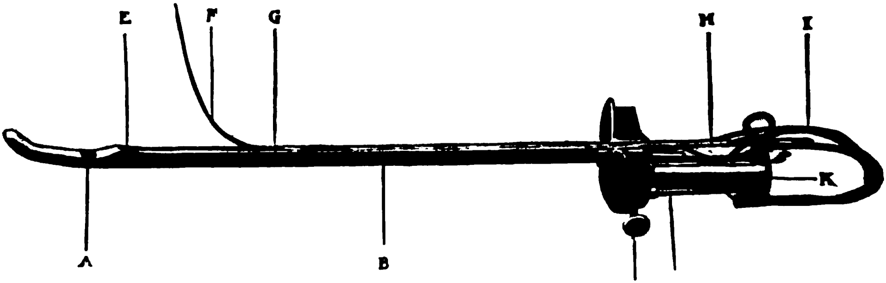


Fig. 3 (open).

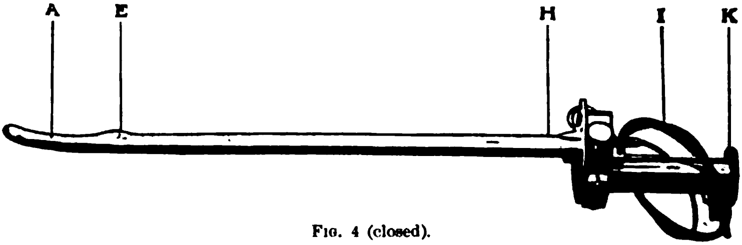


Fig. 4 (closed).

the prism (*A*) is set, and the groove may be converted by a sliding metal cover (*G*) into a tube, through which a small gum elastic ureter catheter (*F*) is passed. The bladder of the patient having been washed out, and distended with clear fluid to 8 or 10 oz., the cystoscope is introduced and the orifices of the ureters sought for, and into each a catheter is passed. When the catheter has been introduced into the ureter, it is relieved from the cystoscope by withdrawing the sliding metal cover. The urine is allowed to flow through each of the catheters, right and left, and examined separately.

Dr. M. T. Harris, of Chicago, has introduced an instrument called the urine segregator (Fig. 5, p. 327), and for which he claims the following advantages:—

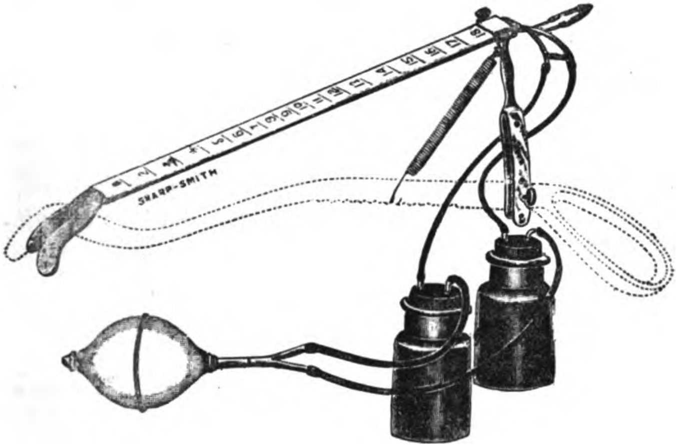


FIG. 5.

1. It collects the urine, so that it may be analysed.

2. It does this without entering the ureters, thus obviating the danger of infecting the kidneys.

3. It not only enables us to differentiate bladder from kidney disease, but to determine the exact condition and functional capacity of each kidney, which is so essential in all diseases of the urinary tract.

4. Its use is so simple that extraordinary skill is not required.

The following description of the method of using the instrument is taken from the *North-Western Lancet*, 15th November, 1898:—

"It will be remembered that the ureters leading from the kidneys open into the base of the bladder, one either side of the midline.

"It occurred to me to raise the base of the bladder into a longitudinal fold passing midway between the ureteral openings, so as to form of the bladder two small lateral pouches, into each of which should enter an ureter.

"By placing the end of a separate catheter into each of the little pouches or pockets, one could draw off the urine as fast as it escaped from the ureters into separate vials—right and left respectively—without intermixture.

"Without going into detail, the longitudinal fold or septum is produced by a suitably formed lever introduced into the vagina in the female, or the rectum in the male.

"Two metal catheters, enclosed in a common sheath, are introduced into the bladder as a single instrument, when each is rotated about its longitudinal axis until the inner end dips down into the little pouch either side of the mid-septum. A rubber bulb aspirates the air from two small vials, attached by rubber tubing to the distal end of the right and left catheter respectively.

"The urine now, as fast as it escapes from the ureters, passes at once into the catheters, and thence into the vials—that from the right kidney into the right vial, that from the left kidney into the left vial."

In a paper in the *Annals of Surgery* (August, 1900), Harris says—"Let us consider now the clinical results obtained by the use of the segregator when used in cases properly within its scope. The first point which presents itself for discussion is the septum. Can this be relied upon to accurately divide the urines, so there shall be no intermixture of the urine from one side with that from the other? The reliability of the septum may be demonstrated in three ways:—

"(1) The use of the instrument in cases where but one kidney is known to be present, as, for instance, after one kidney has been removed by operation;

"(2) In simple, uncomplicated, unilateral, renal hæmaturia; and

"(3) Where the findings have been proven by operation or autopsy.

"Cases of the first class are of value for the purpose of demonstration, for the reason that the appearance of any urine whatever in the vial on the side corresponding to the one from which the kidney had been removed would show at once, anomalies excluded, that the septum was not perfect. I have demonstrated the reliability of the septum in such cases in both the male and female. Cases of the second class form beautiful demonstrations. The contamination of the normal, clear urine from one side by the slightest amount of the bloody urine from the opposite side, would become at once apparent.

"Catheterisation of the ureters simply for the purpose of collecting urine for diagnostic purposes has its drawbacks and limitations, among which may be mentioned temporary anuria, due to the presence of the catheter in the ureter; contamination of the urine with blood and epithelial cells from the ureter; danger of infecting a healthy ureter and kidney. This last mentioned point is of such a serious nature that catheterisation of a healthy ureter, when the bladder is infected, or the opposite kidney tuberculous, has been condemned. If this injunction be heeded, as it should be, it will deny the benefits of this diagnostic aid to a large class of patients.

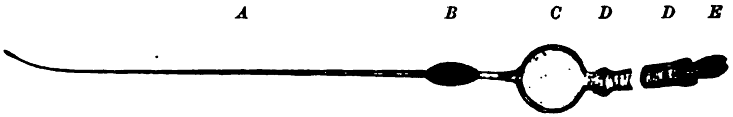


FIG. 6.

A, Copper probe—plated silver. *B*, Flat handle. *C*, Copper or brass globe. *D*, Indiarubber tubing 14 inches long. *E*, Wooden ear tube to fit external auditory meatus.

"We find that the segregator likewise has its limitations. There are certain cases above-mentioned which are not suited to its use. In certain intravesical lesions its use must be supplemental to that of the cystoscope. But for the differential diagnosis of certain tumours of the abdomen; for determining which kidney is diseased and the 'functional capacity' of each, whether the bladder be infected or not; for differentiating between certain bladder and kidney infections, the segregator gives results that are perfectly reliable, as has been repeatedly demonstrated by numerous anatomic findings; furthermore, in the infected cases it has the advantage over the ureteral catheter of being free of the danger of infecting a healthy kidney."

VII. SOUNDING THE URETERS.

In cases of stone impacted at the lower end of the ureter the ureteral catheter may fail to pass, but on introducing a metal instrument, such as shown in Fig. 6, and which may be called a ureteral resonator, the sound of the metal coming in contact with the stone can be detected by the ear as well as by the hand of the observer. The instrument consists of a probe (*A*) which is fixed in a small flat handle (*B*) and prolonged into a hollow brass globe or resonator (*C*). One end of an indiarubber tube (*D*) is fixed to the proximal end of the resonator, to the other end is fixed a wooden ear tube (*E*), made to fit the external auditory meatus of the observer. The probe is introduced into the ureter, and when an obstruction is met with the ear tube is fixed in position, and the instrument rotated slightly. If a calculus is present, the sound produced by the probe grating upon it is easily heard. (Made for the writer by Messrs. J. Gardner & Son, surgical instrument makers, Edinburgh.)

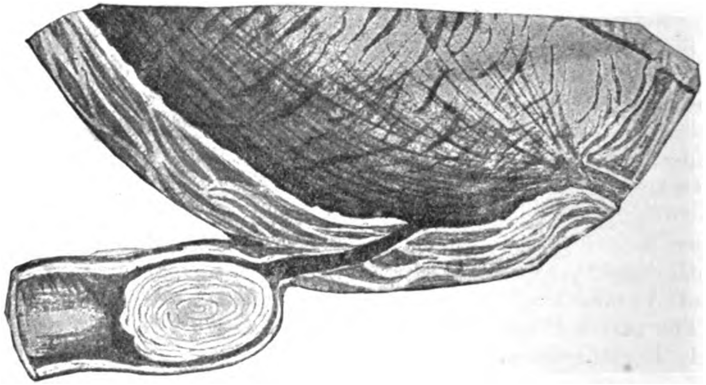


FIG. 7.

Showing the relationship of the calculus to the vesical wall. The stone was caught where the ureter enters the muscular wall, and the duct was considerably distended above the obstruction.

CASE IV.—*Sudden, severe, and prolonged attacks of renal colic—Suppression of urine—Sudden relief—Recurrence in three weeks—Microscopic quantity of blood in the urine—A calculus impacted at the lower end of the ureter, removed by operation.*

A woman, aged 26, on 26th November, 1896, was suddenly seized with a severe attack of renal colic on the right side, with suppression of urine for twenty-four hours. The pain suddenly subsided; three hours afterwards the patient passed 5 oz. of concentrated urine, and the following day she was practically well. Three weeks afterwards she had a second attack, exactly the same as the first. On examination no swelling could be made out, but the right kidney was extremely tender and painful on pressure. No albumen or pus was found in the urine, but when present blood could be detected by the guaiacum test and by a microscopic examination of the deposit. The cystoscope revealed nothing abnormal in the bladder, except that the orifice of the right ureter seemed to project unduly, and the mucous membrane surrounding it was deeply injected. No blood could be seen escaping from either ureter. On introducing the ureter catheter an obstruction was met with 1 inch from the orifice, and on passing the probe a calculus the size of a large horse-bean was found in that situation; it was subsequently removed by operation through the bladder by rapid dilatation of the ureter.

VIII. ROENTGEN RAY PHOTOGRAPHY.

The presence of a renal or ureteral calculus is so frequently simulated by other affections that any new aid to diagnosis has been eagerly employed; thus, when the properties of the Roentgen rays were discovered, the hope was at once entertained that a useful and exact means might be introduced to detect and locate the position of the stone. Early experience, however, showed that the difficulties in employing the rays were so great, and the possible fallacies so numerous, that until lately no reliance could be placed on the observations made by this method.

The physical difficulties, viz.:—

1. The thickness of the parietes.
2. The chances of the stone being overshadowed by bone.
3. The movements of the kidney during respiration are difficult to overcome. It is true that when the patient is sitting upright or standing the abdominal respiratory movements are diminished, but if the observations are taken when the patient is in an erect posture, the shadow of the kidney is liable to be obscured by the descent of the liver and spleen.

Probably the best method is to direct the patient to assume the supine position, to take short, quick breaths, and at the same time take care to fix the abdominal muscles by applying a firm bandage.

In 1896 Dr. John Macintyre, of this city, for the first time, produced an *x*-ray photograph of calcareous matter in the pelvis of the kidney of a patient in the Glasgow Royal Infirmary under the charge of Dr. Jas. A. Adams. The year following, Swain (of Bristol) and Thyne (of Australia) got shadow photographs of calculi, and, in 1898, Mr. A. G. Faulds at that time skiagrapher to the surgical department of th Glasgow Royal Infirmary, produced the photograph of which Fig. 8 is a reduced reproduction. It was taken from a patient from whom the writer removed a stone weighing one-thir of an ounce. It was fixed in the pelvis of the kidney, s that its long axis was at right angles to the photograph plate.

We on several occasions failed to detect a stone which wa afterwards proved to be present. No doubt, within the las few years, by improved methods, observers have succeeded i demonstrating the presence of calculi in the kidney, and has been proved by Swain, Buget, Gascard, and others, tha oxalate of lime gives the deepest shadow, uric acid the fainte while the shadow of phosphatic stones occupies an intermedia position. The thickness of the parietes, the chances of t stone being overshadowed by bone, and the movement of kidney during respiration are all difficulties to be overco beyond the improvement required in *technique*. The subj was carefully worked out by Albarran, Ringel, Braatz, Wagn and others, who showed that even with the most careful atte tion to detail the results from radiography are only valu in exceptional cases, where probably the diagnosis could h been made without the aid of the rays.

This was the general opinion and experience regarding value of the Roentgen rays in the diagnosis of urinary calc until within the last two years. By further experience, how ever, it has been found that many of the earlier failures detect renal calculi were due to defective technic, the operat either using too penetrating rays or employing too long exposure. This is a question for experts in skiagraphy, an it may be interesting to quote the opinion of one who ha devoted considerable attention to the subject.

Dr. Charles L. Leonard, skiagrapher to the Universi Hospital, Pennsylvania, in an article in the *Annals of Surge* 1900, says:—"Skiagraphs are shadows, the varying densit of which correspond to structures, each of which has a relativ constant resistance to the penetration of the Roentgen discharge. The more opaque shadows represent substances that absorb or disperse the most rays, the less opaque permit more rays to pass, while complete penetration is represented by complete absence of shadow.

"Although all substances maintain constantly their relativ opacity, this relative opacity varies in its shadow representa tion with the shortness or length of the exposure and with

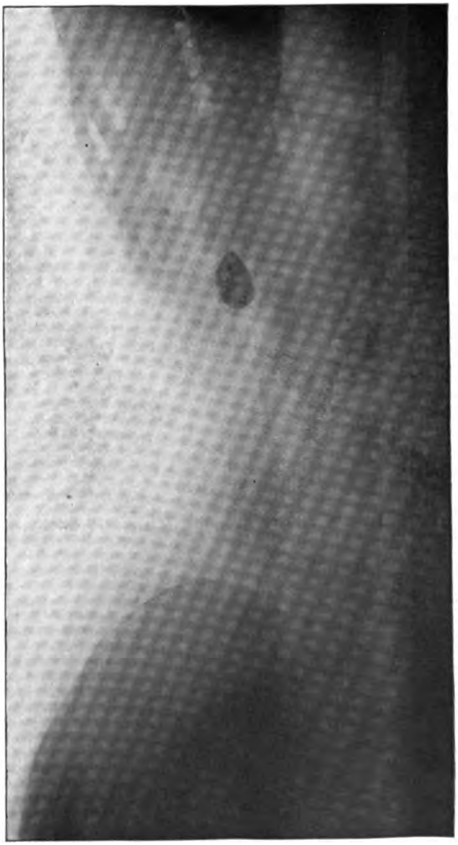


FIG. 8.

varying qualities of Roentgen discharge, that in turn depend upon the varying state of the vacuum in the tube and on other physical phenomena present in their production.

"The greatest value of the Roentgen ray in physical diagnosis is not in penetrating all tissues, but in producing differentiations between tissues that will lead to logical conclusions and absolute diagnosis. Thus, in examining for calculi, we do not want rays that will penetrate all tissues; we want a differentiation in the shadows that will demonstrate beyond a doubt that all calculi, no matter what their relative density, would cast shadows if present in the field examined. Such definition and differentiation make the negative diagnosis absolute. The object, therefore, when examining for renal calculi by this method of diagnosis, is to obtain negatives in which the shadows are shown of tissues less opaque than the least opaque calculus. Where such definition is obtained, it is certain that not even the smallest calculus can escape detection, no matter what its composition is.

"Experience has demonstrated the fact that tissue differentiation can be obtained by employing a Roentgen discharge from a tube having a low vacuum. The vacuum which is most suitable for these examinations is equivalent in resistance to 1 or 1½ inch of spark in air, as measured by the parallel spark gap on the coil. The wattage, or volume and voltage, of the secondary spark employed in overcoming this resistance has a direct bearing upon the volume of Roentgen discharge produced from the tube. The wattage of the secondary circuit must be high, and the amount of discharge great, if rapid exposures are to be made. Such high efficiency is not required in the secondary circuit when higher vacua are employed, but then the penetration is too great, and all tissue differentiation is lost. The efficiency of an induction coil does not depend on the length of the spark, but upon the number of watts produced in the secondary circuit. It is this deficiency in wattage or in the amperage of a short spark that renders the static machine so inefficient where low vacuum tubes should be employed.

"The self-regulating tube makes it easy to obtain and maintain the required vacuum that produces a Roentgen discharge which will differentiate between the softer tissues in the lumbar and pelvic regions. The vacuum employed is equivalent in resistance to 1½ inch or a 2 inch spark in air, as measured on the parallel spark gap on the coil. The secondary discharge of the coil must have a heavy wattage, a fat spark being an essential in producing a sufficient volume of low vacuum discharge to penetrate the lumbar or pelvic regions. Where such definition is obtained that tissues less dense than the least dense calculus are shown, evidently no calculus can escape detection. The length of the exposure depends entirely upon the efficiency of the coil in producing a heavy Roentgen discharge from a low vacuum tube. In these cases it has been varied from five to fifteen minutes, with the individual resistance of the patient. The negatives are seldom dense, except in favourable subjects. They require study, and experience in other *x*-ray work is essential; but to the experienced eye each perfect negative furnishes absolute proof of the presence or absence of all calculi—a proof produced mechanically and free from the personal equation.

"The appended series of cases, upon which this paper is based, have all been examined since the absoluteness of the negative as well as the positive diagnosis was established.

"Fifty-nine cases here have been referred for examination, in which the symptoms were either so marked as to simply need confirmation and the additional detail regarding numbers or position of the calculi, or where a differentiation from other conditions could not be made in any other way; or, again, where a negative diagnosis needed confirmation. Under all these circumstances diagnosis has been found valuable and correct, while in some cases a positive diagnosis has been established where a negative was expected, or multiple calculi found where one was supposed to be present.

"Calculi, single and multiple, were found in eight cases that were confirmed by operation. In one other case a small ureteral calculus was passed, and two other ureteral calculi were shown to be present by subsequent skiagraphs, where the age and condition of the patient did not permit operation. In one case the patient refused operation and left the hospital. In all of the seven cases of negative diagnosis subsequently operated on by nephrotomy, nephrectomy, or nephrorrhaphy, the correctness of the diagnosis was confirmed with the exception of one case, already mentioned, where the error was due to faulty *technique*. Of the fifty-nine cases examined, twelve were found to be the subjects of calculous disease."

IX. DIRECT EXPLORATION OF THE KIDNEY BY INCISION.

Up to the present we have indicated the physical signs which are met with in the various renal lesions now under consideration. Generally, when the disease has existed for a considerable time and become fully developed, it is readily made out by the methods already described. But in some conditions it is of the highest importance that an exact and immediate diagnosis should be made, not only in order to save the diseased organ, but for the protection of the life of the patient. In malignant tumours of the kidney, in complete obstruction to one ureter, or in the early stages of tubercular disease, valuable time may be lost by waiting until the diagnosis is quite clear. Likewise, when nephrectomy is contemplated, a knowledge of the presence and condition of the other kidney is of prime importance. Direct exploration of the kidney may be conducted in two ways—(1) By puncture and aspiration, for the purpose of ascertaining whether the increase in bulk is in its nature solid or fluid, and if found to be the former, (2) by incision through the abdominal wall to obtain an inspection of the kidney. In some cases the incision is made on the side of the diseased kidney only in order to disclose the nature and extent of the lesion, but in other instances the surgeon exposes the other kidney also, so that he may be assured that it is healthy, before removing the one known to be diseased.

Aspiration or puncture of the kidney, when employed for diagnostic purposes in such conditions as hydronephrosis, pyonephrosis, hydatid disease, and cystic degeneration, is of considerable value, as the characters of the fluid withdrawn in each case are sufficiently distinctive to clear the diagnosis. At present it is not necessary to refer to tapping as a remedial measure.

When the kidney is occupied by a solid mass, and the surgeon cannot ascertain the precise morbid condition by the methods already described, cutting down upon the kidney either from the front or from behind will enable him to discover the true nature of the lesion before it is too far advanced, and place him in an advantageous position to treat the disease successfully. Incision for inspection is not usually a serious operation, its gravity is not in any way disproportionate to the good which may be derived from its use, and by employing it early much valuable time may be utilised, which would otherwise be lost. While the surgeon waits for characteristic symptoms, the opportunity of doing good may be allowed to pass.

Direct exploration of the kidney is justifiable under the following circumstances:—

1. To determine the condition of the opposite kidney before a nephrectomy.

2. In traumatic lesions of the kidney giving rise to grave symptoms.
3. In cases of sudden anuria where medicinal treatment has failed to give relief.
4. In cases of doubtful diagnosis, especially in those suspected to be malignant tumours, tubercular disease, or calculous disease with sepsis.

1. The dominant importance of ascertaining the condition of the kidney opposite the one to be excised in contemplated nephrectomy is clearly indicated by the deaths which have occurred from uræmic coma after operations. Such cases have been recorded by Knowsley Thornton, Lange, Bennet May, Sonnenburg, Championnier, Terrier, and others. Martin, of Berlin, for the purpose of assuring himself of the condition of the remaining kidney, advocates nephrectomy by laparotomy only. Some surgeons propose to make a lumbar incision down to the kidney supposed to be healthy, and after ascertaining its condition, adopt the most suitable method for removing its diseased neighbour. But even with this information we do not possess absolute security, as anuria may develop after nephrectomy in the presence of an apparently healthy kidney.

George M. Edebohls, in a paper on "The Other Kidney in Nephrectomy" (*Annals of Surgery*, vol. xxvii, p. 434), advocates exploratory incision to ascertain the presence and condition of the other kidney, and at the end, in a summary, he says:—

"Before extirpating a kidney, a knowledge of the presence and condition of the other kidney becomes of paramount importance.

"The aids to obtaining such knowledge are:—Examination of the urine; palpation of the kidney; cystoscopy; catheterisation of the ureters; skiagraphy; the fluoroscope; and, finally, exploratory incision.

"The presence of a second kidney is determined by most of these aids.

"None of these aids, however, with the exception of the last mentioned, can, in all cases, give us completely satisfactory information regarding the exact condition of the other kidney.

"In cases of pyuria and tuberculosis of vesical and unilateral renal origin, catheterisation of the ureters involves the risk of infection of a previously healthy ureter and kidney, and should be avoided."

Incision down upon, delivery, and examination of both kidneys (lumbar exploratory incision), as originally proposed and carried out by the writer, should be the rule in every contemplated nephrectomy in which we are not absolutely and beyond peradventure certain of the presence and exact condition of the other kidney.

2. Severe laceration and bruising of the kidney may call for immediate exploration, as not only may the primary hæmorrhage be so severe as to cause death from syncope, but hæmaturia may persist for so long a time as to endanger life; there is also the risk of extravasation of urine and subsequent suppuration. It is, therefore, incumbent upon the surgeon to make frequent and careful examinations in order to ascertain as early as possible if operative treatment is demanded. The usual treatment employed in cases of injury to the kidney, such as the administration of opiates, the application of ice to the abdominal wall in front or behind, may be useful when the injury is slight and the danger of death from hæmorrhage remote. Maunoury communicated an article to the Congrès de Chirurgie, 1885, in which he defended the adoption of palliative treatment to begin with, and only recommended incision when suppuration had set in, and then he only proceeded to open the abscess and remove the remnants of the kidney without performing a complete nephrectomy. This he did from the fear that incontrollable hæmorrhage was likely to occur as a consequence of immediate nephrectomy.

When severe primary hæmorrhage menaces the life of the patient, or even when the presumption is that rupture of the kidney has occurred, an exploratory incision should at once be made and the exact condition of matters discovered. If the kidney is only ruptured to a slight degree, a partial excision may be performed, and the separated edges may be drawn together by sutures, but should the organ be completely destroyed, then the vessels may be ligatured and the kidney removed. In this way suppuration may be prevented, and the danger of further hæmorrhage stopped.

3. In cases of sudden anuria in which medical treatment has failed to give relief.

In cases of old standing disease not infrequently the organ first attacked is gradually rendered functionally useless. This is most commonly seen in calculous disease, where the atrophied organ may contract around an impacted calculus, or by the escape of urine being impeded the kidney may be dilated into a large cyst. Both these processes have functionally the same result, namely, the diseased kidney becomes useless, and its neighbour, undergoing compensatory hypertrophy, undertakes double duty, and becomes the only eliminator of urine. Not uncommonly, in the course of time, the only working kidney becomes itself attacked, a calculus forms in its pelvis, and passing down into the ureter blocks the passage and causes sudden and complete anuria. Many such cases have been recorded; in a few, after a short time, the obstruction is relieved and the excretion of urine is re-established, but more often death occurs from anæmia. Clement Lucas and Bennett were amongst the first surgeons to advocate early interference in such cases. The rule may be accepted that one should not hesitate to interfere after complete anuria has been established for two days. By exposing the kidney and ureter, the obstruction may be relieved by pushing the stone up into the pelvis, or if the calculus is impacted low down a temporary fistulous opening may be made. When the patient has recovered from the acute symptoms the stone should be extracted. It is important in these cases to explore the kidney as early as possible, before grave symptoms arise and while the patient is free from evidence of toxic poisoning or much swelling in the renal region. Besides the cases just referred to, there are those in which a calculus in one ureter not only obstructs the escape of urine, but induces reflex suppression of the function of the opposite kidney.

4. In cases of doubtful diagnosis, especially in those suspected to be calculous, malignant tumours, or tuberculous disease.

In the great majority of cases the symptoms and the physical signs are sufficiently significant to enable the surgeon to make a definite diagnosis before operating. In a few instances they are only sufficiently well-marked to convince him that one kidney is diseased, but inadequate to support an exact diagnosis. In such cases an exploration should be made.

The indications which justify an exploratory incision are:—

1. Persistent or frequent hæmaturia of renal origin, and especially if the blood has been proved by a cystoscope examination to come from one ureter only.

2. Frequent attacks of renal colic and persistent one-sided pain, associated with hæmaturia or pyuria, in which a calculus cannot be discovered impacted in the ureter.

3. In strumous subjects who suffer from frequent micturition, and pain in one renal region without evidence of disease in the bladder.

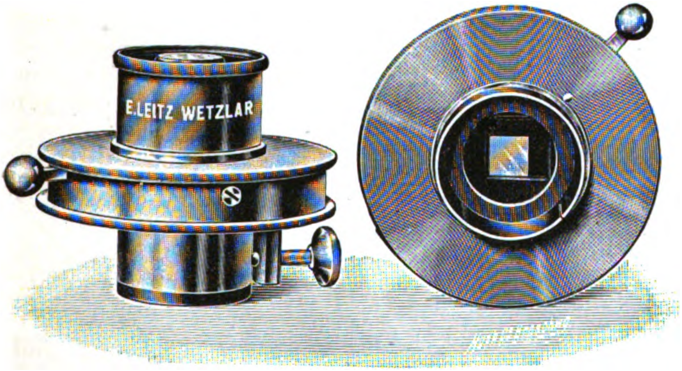
(*To be continued.*)

EHRLICH'S EYEPIECE FOR THE DIFFERENTIAL COUNT OF RED AND WHITE CORPUSCLES IN STAINED FILMS.[1]

BY J. M'GREGOR-ROBERTSON, M.A., M.B., C.M.,
F.F.P.S.(GLAS.), F.R.S.(ED.)

EHRLICH'S eyepiece (Blenden-ocular) is a very simple but ingenious mechanical contrivance for facilitating the counting of red and white corpuscles in stained blood films.

It consists of a No. 2 eyepiece, in the tube of which is a diaphragm which cuts off the whole field except a *square* in the centre. This square, however, can be made larger or smaller by the movement of a small lever at the side. Whether one moves the lever much or little, the field is always in the centre and is always a square. On one side of the diaphragm there are cut three little notches at equal distances. If one has so moved the lever that the length of the side of the square is the distance to the first notch, that equals one-quarter of the whole side; if the lever be moved so that the length of one side of the square is the distance to the second notch, that equals one-half of the whole side; while if the lever be moved so as to open the diaphragm to the third notch, that is three-quarters of the whole. If one



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[1] Read at a meeting of the Glasgow Pathological and Clinical Society held on 12th November, 1900.

calls the area of field visible when the diaphragm is open to the first notch 1, then the visible area when it is open to the second notch is in the proportion represented by 4; when open to the third notch the proportion is 9, and when fully open the proportion is 16. One is thus able to count the numerous red cells in a small field and the few white cells in a large one, and subsequently by multiplying the number of red cells by the figure which indicates the difference in the respective areas, 4, 9, or 16, according to the area chosen for the white, one gets the proportion between white and red. The method is as follows:—In the first place, the film must be thin, uniformly spread, with the cells well separated from one another. A part is selected, and, with the diaphragm open showing the field represented by 9 or 16, the white cells are counted and the number noted. Without moving the preparation, the lever is moved to give the area we have called 1, and the red cells counted and the number noted. The diaphragm is then opened to the area 9 or 16, whichever was used, and the preparation moved to give a new field (for which a mechanical stage is most suitable), and the white cells are again counted; the diaphragm is again narrowed to 1, and the red cells counted. From one to two hundred such counts are made, and then the numbers of red and white cells respectively added up. The number of red cells is then multiplied by the figure 9 or 16, according to the area chosen in counting the white cells. The relative numbers of white and red are thus obtained.

The left side of the figure shows a view of the instrument. Below, to the right, is a screw for fixing it to the microscope tube; the little knob on the left is the lever. The right side of the figure shows the square in the centre of the diaphragm.[1]

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[1] I am indebted to the courtesy of Leitz's representative in Berlin, Herr Franz Bergmann, Luisen Strasse 45, for the above illustration, from whom the instrument can be obtained, or from Kanthack, 18 Berners Street, London, W.

SOME POINTS IN THE FORMATION OF THE CONNECTIVE TISSUE OF THE LIVER, WITH SPECIAL REFERENCE TO HEPATIC CIRRHOSIS.[1]

By JOHN M'INTYRE.

THE object of this research was suggested by the recent revival of interest in the subject of cirrhosis of the liver. The discussion of the clinical aspect of the diseases or disease at the British Medical Association's meeting in Edinburgh in 1898,[2] the communications by Adami on the bacteriology of cirrhosis of the liver in Pictou cattle and in the human,[2, 3] the Lumleian Lectures for 1900 delivered by Dr. Cheadle,[4] the review of the pathology of hepatic cirrhosis at the Ipswich meeting of the British Medical Association (1900),[5] all indicate that many problems regarding this affection are still unsolved, and that if any are in process of being solved, new problems are rising in their places. Dr. Cheadle puts forward the following questions as awaiting "an accepted and final statement":— . . . "Is atrophic cirrhosis, *i.e.*, the contracted hobnail liver, always of alcoholic origin? Is the liver small from the first, or is there an earlier stage in which it is enlarged, becoming contracted later? Or is atrophic cirrhosis merely a late stage of hypertrophic cirrhosis? Or is there an alcoholic cirrhosis in which the liver is hypertrophied and enlarged from first to last? Or is hypertrophic cirrhosis, limited to the biliary cirrhosis of Hanot and Charcot, of uncertain origin? Or, it is even asked, does the biliary form described by French authorities exist at all as a distinct entity? Again, is ascites practically limited to the atrophic form—almost unknown in the hypertrophic? and, on the other hand, is jaundice rare in atrophic cirrhosis—almost invariable in the hypertrophic form? Are the microscopic characters or monolobular cirrhosis, with hyperplasia of the bile-ducts—as described in the biliary hypertrophic cirrhosis of Hanot and Charcot—found only in cases which correspond to that clinical type? or are they met with in both atrophic and hypertrophic cirrhosis of alcoholic origin?"

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[1] John Reid Prize Essay, 1900-1901 (abridged).

[2] *British Medical Journal*, 1898, vol. ii.

[3] Adami, *Lancet*, 1898, vol. ii.

[4] Cheadle, *Lancet*, 1900, vol. i.

[5] *British Medical Journal*, 1900, vol. ii.

The above quotation is only made by way of demonstrating the multiplicity of openings for fresh work, for here but a small fraction of the problem as stated will be dealt with. Nor will what is, perhaps, a specially important contribution in this field be entered upon—the bacteriological theory of Adami, and the new facts which it relates to old appearances.

NORMAL ANATOMY.

The points in the normal anatomy of the liver which I think of importance as bearing on my observations of the anatomy of hepatic cirrhosis are, briefly, as follows:—

1. *Areolar tissue in portal canals.*—If section be made through a comparatively fresh human liver (*post-mortem* room specimen) certain vessels are seen, on naked-eye inspection, to remain patent, while others, if empty of blood, are collapsed. The former are the hepatic veins, the latter the portal veins; and the reason for this difference in behaviour is that the areolar tissue surrounding the hepatic vein is very small in amount, and binds these vessels firmly to the parenchyma, while that distributed round the vessels of the portal canal is relatively much larger in amount, and very loose in texture.[1]

2. *Saccular recesses in bile-duct walls.*—The bile-ducts in the larger portal canals of the human liver present many orifices on their inner surfaces—the openings of saccular and tubular recesses which divide and anastsmose; some of these are in turn provided with numerous cæcal projections.[1]

3. *Mode of development of bile-duct in lower vertebrates and in human embryo.*—The researches of Shore and Jones,[2] based on an exhaustive examination of the livers of a complete series of vertebrates, tend to show that the bile-ducts are very few in number in the lower vertebrates, and that each bile-duct has a distinct connective tissue sheath. Shore and Jones conclude that the origin of such a sheath is explained by the protrusion of a primitive hepatic diverticulum from the intestine into the mass of liver parenchyma already laid down —such diverticulum carrying with it developing connective

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[1] Schäfer, *Quain's Text-book of Anatomy*, vol. iii, pt. 4.

[2] Shore and Jones, *Journal of Physiology*, 1889, vol. x.

tissue from the wall of the gut. In accordance with von Baer's law, a similar process occurs in the human embryo.

4. *Essential tubular structure of the liver.*—The livers of the embryos of birds and mammals, and the livers of the adult lower vertebrates, if examined histologically, at once indicate the real tubularity of the gland. The absence of a basement membrane, however, places a difficulty in the way of regarding it as a tubular gland in the ordinary acceptance of that term.

THE CONNECTIVE TISSUE IN HEPATIC CIRRHOSIS.

1. *Nature.*—The connective tissue of the liver is like connective tissue elsewhere—it is areolar tissue formed of white fibres and yellow elastic fibres. These originate either as fibrillation products of the protoplasm of the connective tissue spindle-shaped cells, or else as extra-cellular formations in the intercellular ground substance. Thoma[1] and Schäfer[2] regard the evidence for a definite proof of either theory as insufficient, though Schäfer thinks the formation of elastic fibres by extracellular deposition of "elastic granules" is highly probable. In the disease known as cirrhosis of the liver an increased formation of this element takes place chiefly around the portal canals. Like all newly formed connective tissue, it contracts after a time—a fact evidenced by inspection of the surface of a "hobnail" liver.

2. *Occurrence.*—The cirrhotic lesion is found in some degree in passive hyperæmia of the liver; it is frequently present in cases where a history of prolonged alcoholism is given; overeating, a sedentary occupation, and the gouty diathesis are said to induce it. Obstruction, or congenital absence, of the bile-ducts is associated as a factor in its causation; and the French school (Charcot, Hanot, and others) hold that the peculiarities of the cirrhosis which occurs after these two lesions were also found in a "hypertrophic" cirrhosis of unknown origin. Malaria, syphilis, and tuberculosis are frequently accompanied by a new formation of the interstitial substance, while a cancerous cirrhosis of a diffuse and extremely vascular character is found in cases where the malignant new growth has infiltrated only the stroma of the gland. In cases of chronic poisoning by phosphorus and cantharides a

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[1] Thoma, *Text-book of General Pathology*, 1896, vol. i.

[2] Schäfer, *Quain's Text-book of Anatomy*, vol. iii, pt. 4.

fibrosis is present, as it is also to a marked degree in the obscure disease known as acute yellow atrophy of the liver. The absorption of an irritant by the portal radicles brings about the cirrhotic thickening in chronic peritonitis; and from chronic peritonitis, again, a perihepatitis may follow, whence a slight cirrhosis by extension inwards usually ensues. Lupinous and leprous cirrhosis have also been described.

3. *Causation.*—The etiology of the different cirrhoses is still obscure. The ordinary, Lænnec's, or atrophic cirrhosis was for long associated with alcohol as a cause. Lancereux[1] claims, however, that it is proved from the results of his experiments that the sulphate of potassium added to alcohol by many dealers must be held responsible for the diseased condition. Adami's[2, 3] researches place the cause farther back, for his observations render it highly probable that the involution form of the *bacillus coli communis* found by him in the hepatic cirrhosis of man and in that of Pictou cattle is the irritant which brings about the new formation of interstitial substance. Alcohol (or alcohol *plus* potassium sulphate) would, if Adami be right, occupy the position it is supposed to hold in pneumonia, that of a predisposing cause. For malarial, syphilitic, and tuberculous cirrhosis the toxins present in these conditions may be held as causative; but even here the action of these toxins, whether on parenchyma or connective tissue, or on both, is a point demanding further enquiry. Allied to the cirrhoses of these diseases is that of the cancerous variety, since toxins, as well as the neoplasm infiltrating the stroma, are probably to be reckoned with. In the cirrhosis of obstructive jaundice it is highly probable, judging from the experiments of Legg[4] and Litten,[5] that the irritation does not arise from the retained bile, but travels up from the connective tissue of the *porta,* or point where occlusion has occurred, the occluding agent itself frequently causing the irritation. The prolonged venous hyperæmia of the liver arising from cardiac incompetency is regarded by Cheadle[6] as sometimes causative of a cirrhosis.

4. *Origin.*—As to the origin of the connective tissue new

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[1] Osler, *Principles and Practice of Medicine,* 1898.
[2] *British Medical Journal,* 1898, vol. ii.
[3] Adami, *Lancet,* 1898, vol. ii.
[4] Wickham Legg, *St. Bartholomew's Hospital Reports,* 1873, vol. ix.
[5] Dreschfeld, *Journal of Anatomy and Physiology,* 1881, vol. xv.
[6] Cheadle, *Lancet,* 1900, vol. i.

growth in cirrhosis, while, as has already been indicated, its form and likeness are the form and likeness of connective tissue in general, yet for its parentage opposing claims are made. Hamilton[1] holds that, in part, the liver-cells themselves give origin to the new fibrous tissue, and Kelsch and Wannebroucq support this view. The other view—that its origin is wholly plebeian and from the connective tissue of the neighbourhood, or from this *plus* the blood-vessel endothelium—is the opinion held by the majority of pathologists. It will be noted that this theory of Hamilton's implies that what, according to the later researches in embryology,[2] is an hypoblastic tissue may become transformed into a mesoblastic tissue—a metamorphosis not met with elsewhere.

I have observed in sections from a case of obliteration, or congenital absence, of the bile-duct, appearances similar to those described by Hamilton—active change of liver-cells of normal size into cells with nuclei of ordinary size, but with lessened amount of clear protoplasm. I saw nothing, however, that clearly indicated a transition from these to spindle-shaped connective tissue cells. The stellate cells of Kupffer lying near might suggest such a transition. What makes the matter more confusing in such a section as the above-mentioned is the apparent invasion of the fibrous tissue by these diminished liver-cells; but this invasion (if such it be) is in order to a formation of one of the several kinds of "bile-ducts" or "pseudo bile-ducts" newly formed at times in cirrhosis—the club-shaped variety.

5. *Distribution.*—Nomenclature is sometimes based on this feature in cirrhosis. Multilobular is spoken of as the characteristic distribution in alcoholic cirrhosis, and monolobular as the form prevailing in the so-called "biliary" cirrhosis. Pericellular cirrhosis is described as typical of the liver of congenital syphilis. In reality, in different sections of one and the same liver, all these forms may be found; and intermediary conditions might be distinguished with as much justice as the foregoing.

In all degrees of cirrhosis, however, it is the portal canal that is most affected by the change, the intralobular vein's adventitia being scarcely, if at all, attacked. The normal histology of these two regions, previously referred to, suggests that proliferation would be an easier matter among the loosely supported structures of the portal canal than among the dense connective tissue round the intralobular tributary of the hepatic vein, where tissue-tension is high because of the close relation of fibre to fibre.

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[1] Hamilton, *Text-book of Pathology*, 1894, vol. ii, pt. 1.

[2] Foster and Balfour, *Elements of Embryology*, 1889.

Few, if any, of my sections show any fibrosis in the centre of the lobule. An appearance suggestive of this occurs in passive hyperæmia (of cardiac origin usually), but this on closer examination will be seen to be, as Hamilton[1] indicates, in large part due to the fused walls of empty capillaries. Coats[2] holds that "it is a mistaken view that a cirrhosis of the liver arises out of a passive hyperæmia." Cheadle,[3] however, describes an "hypertrophic cirrhosis of the liver due to long venous congestion from tricuspid incompetence." The difficulty which arises in eliminating cases with alcoholic histories from among cases of cirrhosis associated with cardiac lesion, and the limited number of "nutmeg" livers which I have examined, prevent my forming any definite opinion in this matter; but the cardiac livers, of which I have prepared sections, show scarcely any cirrhosis even in the portal canal area.

In none of my preparations have I seen any signs of cirrhosis commencing simultaneously in hepatic and portal areas—a condition Brieger[4] claims to have made out in all varieties of cirrhosis, even in "cardiac." The appearance of a fibrosis in the central vein area might be explained by the fused capillaries above alluded to; but, in regard to cirrhosis proper, even in advanced cases the connective tissue around the intralobular vein is but little thickened, as I have already indicated. And, as against Brieger's view, it might be urged that, since in the cases where he found this condition there was also a fine fibrosis running up between the columns of liver-cells and connecting the central and portal areas, it is hardly possible to say if the extension had not taken place from the portal canal area to the central vein of the lobule by way of these bands of fibrous tissue. Any argument against this criticism based on the appearances of the age of the cells (such as, that if it were true, the older fibrous tissue would be apparent in the portal area, and the younger in the hepatic area) is invalidated by the fact that exacerbations of the cirrhotic process may occur irregularly in any part of the invaded lobule.

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[1] Hamilton, *Text-Book of Pathology*, 1894, vol. ii, part 1.

[2] Coats, *Manual of Pathology*, 1895.

[3] Cheadle, *Lancet*, 1900, vol. i.

[4] Heineke, *Ziegler's Beiträge zür pathologischen Anatomie*, Band. xxii, 1897.

Dreschfeld's[1] contention that early alcoholic cirrhosis is really monolobular, and late alcoholic cirrhosis multilobular (a view contrary to orthodox opinion), demands a reliable clinical history for the elucidation of each specimen, and this has not been attempted here. I take it that what is meant is that the monolobular distribution is extremely fine, indicative of an acute process, and that chronicity of irritation induces a later multilobular cirrhosis, whose extent masks the previous finer and more diffuse fibrosis. Allowing the claim, I think that a further stage in alcoholic cirrhosis might be indicated—one where the monolobular bands also become thickened, and histological appearances resembling those of the so-called "biliary" cirrhosis are present. This opinion results from an examination of my sections, but Hawkins[2] holds that "biliary" hypertrophic cirrhosis is really alcoholic in origin, and his classification includes only two forms of alcoholic cirrhosis, a multilobular and a unilobular, while he recognises no variety of cirrhosis such as Hanot described. He cites Osler as stating that in all the cases of hypertrophic cirrhosis which he had examined, a history of hard drinking had been elicited.

My preparations also support Hawkins' view that it is extremely doubtful that, in the "monolobular" or "biliary" form of the lesion, the cirrhosis is mainly in connection with the walls of the smaller bile-ducts, and that, in the "multilobular" form, it is around the portal vein mainly; although (as I shall try to show later) there is room for believing on other than histological grounds in an association of portions of the connective tissue with the individual structures in the portal canal. The theory opposed by Hawkins is well stated by Woodhead.[3]

From the foregoing brief review it would seem that descriptions of the cirrhotic lesion, which rest on the distribution of the connective tissue alone, are apt to be misleading, unless an account of a detailed microscopic examination be added. And, even where this is given, it is possible that the inspection of one of the intermediary stages referred to above might result in one observer using the term "monolobular," while another labelled the distribution "multilobular." Where paraffin sections, one-cell thick, are prepared as a matter of routine, a less inexact result might be arrived at, if, in addition to the detailed histological scrutiny, an enumeration of the cell-nuclei in a certain number of islands of parenchyma were made, and an average struck. The fallacies here would be no greater than obtain in the comparison of blood corpuscle counts by different observers with different instruments.

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[1] Dreschfeld, *Journal of Anatomy and Physiology*, vol. xv, 1881.

[2] Hawkins, *Clifford Allbutt's System of Medicine*, vol. iv, 1897.

[3] Woodhead, *Practical Pathology*, 1892.

(To be concluded.)

CURRENT TOPICS.

Prevention of Tuberculosis in Glasgow and the West of Scotland.—In accordance with one of the resolutions adopted at the public meeting of citizens on 22nd March (see *Glasgow Medical Journal* for April, p. 286), the fifty gentlemen selected to represent that meeting assembled, by invitation of the Corporation, in one of the committee rooms of the City Chambers on the afternoon of Friday, 29th March. The Lord Provost occupied the chair. An Executive Committee was appointed to carry out the other resolutions adopted at the original meeting. This Committee consists of twenty-three members, viz., the Lord Provost (convener), two honorary joint secretaries (Bailie King and Dr. W. K. Hunter), and twenty other members (ten lay and ten medical). Immediately thereafter, the Executive Committee appointed six of its number as a sub-committee to draw up a constitution for the new Association.

The committee appointed by the Executive Council met on Monday, 29th ult., in the Municipal Chambers to consider a draft constitution prepared by a sub-committee. Half an hour later the Executive Council met in the same room, and adopted the proposed constitution with a few modifications. The following office-bearers were thereupon elected to the Glasgow and District Branch of the National Association:—Hon. President, Lord Overtoun; Hon. Vice-Presidents, a large number of influential gentlemen; President, Lord Provost Chisholm; Hon. Secretaries, Bailie King and Dr. W. K. Hunter; Hon. Treasurers, Mr. Robert Gourlay and Mr. Jas. Nicol; fifteen medical men and fifteen lay men were elected Members of Council, in addition to the President, two Hon. Secretaries, and two Hon. Treasurers, who are *ex officio* members.

Dr. Dougan, in the absence of the Lord Provost, presided at both meetings, and in each case there was a large attendance.

ROYAL INFIRMARY.—The following house appointments have been made for the six months from 15th April to 15th October, 1901:—

House Physicians.—Chas. E. Pepper, M.B., Ch.B., assistant to Dr. Dougall; J. Tudor Griffiths, L.R.C.P.E., &c., assistant to Dr. M'Vail; Archd. Jubb, M.B., Ch.B., assistant to Dr. Middleton; A. H. Edwards, M.B., C.M., assistant to Dr. Lindsay Steven; Alex. Fraser, M.B., Ch.B., assistant to Dr. Monro.

House Surgeons.—John Allan, L.R.C.P.E., &c., assistant to Mr. Clark; A. B. Laidlaw, L.R.C.P.E., assistant to Dr. Barlow; James Scott, M.A., M.B., C.M., assistant to Dr. Adams; J. S. Enslin, M.B., Ch.B., assistant to Dr. Newman; J. T. Malloch, L.R.C.P.E., assistant to Dr. Knox; W. S. Dickie, L.R.C.P.Lond., M.R.C.S.E., assistant to Mr. Pringle.

Ophthalmic Department.—Robt. Neilson, M.B., Ch.B., assistant to Dr. Ramsay.

Gynæcological Department.—Lizzie T. Fraser, M.B., Ch.B., assistant to Dr. Kelly.

WESTERN INFIRMARY.—The following have been appointed resident assistants for the six months commencing 10th April:—

House Physicians.—Matthew Aikman, M.B., Ch.B., assistant to Professor M'Call Anderson; Charles C. Cuthbert, M.A., M.B., Ch.B., assistant to Dr. Finlayson; Allan Martin, M.B., Ch.B., assistant to Professor Gemmell; Edward P. Cathcart, M.B., Ch.B., assistant to Professor Stockman.

House Surgeons.—William Barr Pollock, M.B., Ch.B., assistant to Professor Sir H. C. Cameron; David M. Cowan M.B., Ch.B., and Leonard Findlay, M.B., Ch.B. (understudy), assistants to Professor Macewen; Peter M'Fadyen, M.B., Ch.B., assistant to Dr. Renton; Edward Gillespie, M.B., Ch.B., assistant to Dr. Beatson.

UNIVERSITY OF GLASGOW.—The following have passed the first professional examination for the degree of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects indicated (B, Botany; Z, Zoology; P, Physics; C, Chemistry):—

William Allan (P).
William Smith Allan (P, C).
Andrew Allison (Z, C).
George Victor Anderson (B, Z).
Donald Arbuckle (B, Z, C).
Andrew Hamilton Arnott (B, Z).
James Henderson Baird (Z, C).
Thomas Barbour (B, Z).
Hugh Barr (Z, P, C).
George Duncan Morrison Beaton (Z, C).
George Beattie (B).
Robert Daniels Bell, M.A. (B, P).
John Charles Bosworth (Z).
Thomas Fraser Bowie (C).
Forrest Brechin (B, P).
Charles Brown (B).
Charles Burns (B, P).
George Yuille Caldwell (P).
Donald Livingstone Carmichael (Z).
Robert Buchanan Carslaw, M.A. (B, Z).
Donald Clark (Z, C).
Andrew Donaldson Cowan (Z, C).
Robert Wilson Dale (Z, C).
Richard John Driscoll (Z, C).
Eric John Dyke (Z).
Hamilton William Dyke (Z, C).
James Fairley (Z, C).
Harry Prescot Fairlie (Z, C).
Alexander Burns Ferguson (Z, C).
Edward John Fitzgerald (B, P).
Thomas Henderson Forrest (Z, C).
Thomas Scott Forrest (B, Z).
William Gilchrist (B, P).
William Harold Gillatt (C).
Joseph Glaister (Z, P).
William Grier (Z, C).
Charles Francis Dyer Hammond (B).
James Duncan Hart (Z, C).
Frank Hauxwell (Z, C).
James Waugh Hay (P, C).
Robert M'Cowan Hill (B, Z).
Lawrence Hislop (P).
Ralph Howell (P).
James Hunter (Z, C).
Harry Stewart Hutchison (Z, C).
William Boyd Jack (Z, C).
Alexander Jamieson (P).
James Towers Kirkland (B, Z).
William Love Kirkwood (Z, C).
George Hugh Logan (Z, C).
Joseph Glaister M'Cutcheon (P).
Walter George Macdonald, M.A. (Z, C).
Duncan M'Ewan (Z, C).
Hugh Allan Macewen (Z, C).
John Macintyre (Z, C).
Milne M'Intyre (Z, P).
Charles Gordon Mackay (P).
Finlay John Mackay (B, Z).
John Henry M'Kay (Z, C).
Ronald Mackinnon (B, C).
Norman Henry William Maclaren (Z).
Roderick M'Leod (C).
William Macleod (Z).
Matthew Thompson Drummond M'Murrich (Z, C).
Hugh MacNaught (Z, C).
William Hislop Manson (Z).
Robert May (Z, C).
Henry Joseph Milligan (Z, C).
John Moffatt (B).
Macdonald Munro (P, C).
Frank Anderson Murray (P).
Patrick Joseph O'Hare (Z).
John Clegg Pickup (P, C).
Henry Sherwood Ranken (Z, C).
Cunison Deans Rankin (B, Z, P, C).
Thomas Thomson Rankin (Z, C).
John Reid (Z, C).
James Mill Renton (Z, C).
James Watson Richmond (P).
Arthur Robertson (Z, C).
John Macdonald Ross (B, Z).
Alexander Cappie Russell (Z, C).
John Cooper Russell, M.A. (Z).
Edward Louis Augustin Sieger (Z, C).
William Herman Sieger (B, Z, P, C).
James Charles Donaldson Simpson (B).
Robert Alexander Slater (B, P).
Morrison Wood Smith (C).
James Stevenson (B, Z).
Arthur Anderson Stewart (B, Z).
Daniel Stewart (Z).
John Stewart (B, P).
William Alexander Stuart (Z, C).
Joseph Roderick Sutherland (Z, C).
John Taylor (B, Z, P, C).
Thomas Thom (Z, C).
Joseph Johnston Townley (P).
William Young Turner (P, C).
William Lind Walker (C).
Alexander M'Millan Watson (C).
Thomas Macknight Watt (B, P).
William Alexander Wilson (Z).
George Young (Z, C).

WOMEN.

Bethia Shanks Alexander (B).
Jeannie Thomson Clark (P, C).
Katharine Robina Margaret Lucus (B).
Agnes M'Phun (P).
Elizabeth Maud M'Vail (P, C).
Florence Mann (P, C).
Jessie Emily Munro (C).
Jessie Deans Rankin, M.A. (C).
Lily Smellie (B, C).
Mary Spence (P, C).
Chrissie Gibson Thomlinson (P, C).
Annie May Yates (B, Z).

The following have passed the second professional examination for the degree of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects indicated (A, Anatomy; P, Physiology; M, Materia Medica and Therapeutics):—

Robert Adam (A, P).
William Kirkpatrick Anderson (A, M).
John William Arthur (A, P).
Robert James Arthur (A, P, M).
Thomas Ballantyne (A).
Andrew Farm Bell (A, P).
Thomas Bennett, M.A. (A, P).
Archibald Grainger Bisset (M).
Alexander Blair (P, M).
William Thomas Bolton (A, P, M).
James Campbell Bringan (P, M).
John Brown (M).
Robert Bruce (A, P).
John Miller Hopkins Caldwell (P).
Angus Campbell (A, P).
Robert Harold Campbell (P).
Robert Peploe Cartwright (P).
John Cairns Christie (A).
Alexander Erskine Clark (A, P, M).
David William Davidson (A, P).
Hugh Colin Davies (P).
James Dick, M.A. (A).
Mitchell Innes Dick (A, P, M).
William Dick (A).
David Dickie (A, P).
Hugh M'Millan Donaldson (P).
George Horn Downie (P).
David Garfield Dykes (A, P, M).
James Eadie (A, P, M).
Cunison Charles Finlator (A, P, M).
Eric Dalrymple Gairdner (A, P).
George Garry (P).
William White George (A).
George Gordon (M).
William Harvey (A, P).
James Thompson Kelly (P).
John Muir Kelly (P, M).
Alexander Dingwall Kennedy (P).
Robert Dallas Kennedy (M).
John Kerr (P).
Robert Laurie (A, P, M).
Alexander Leggat (M).
Archibald Leitch (M).
William Jamieson Logie (A).
Thomas Walker Love (A, P).
Donald MacAulay (M).
James Duff M'Culloch (A, P, M).
Alexander Armstrong MacFarlane (M).
David Duncan Fraser Macintyre (M).
John Matheson MacKellar (A, P, M).
Ivy M'Kenzie, M.A. (M).
Alexander Stewart M'Millan (A, P, M).
James Roy M'Vail (M).
James Anthony Macvea (A, P, M).
Andrew Alexander M'Whan (A, M).
William Main (P).
Alexander Matheson, M.A. (A, P).
Peter Millar (P, M).
Alexander John Mitchell (P).
Spencer Mort (A, P, M).
Gavin Muir (P, M).
Alexander Harper Napier (P, M).
David Penman (A, P).
Alexander M'Millan Pollock (A, P).
William Rankin, M.A. (A, P, M).
Daniel Falconer Riddell, M.A. (A, P, M).
Peter Hamilton Robertson (A, P).
Robert Clemens James Schlomka (A).
Frank Donald Scott (A, P).
William Garrow Shand (A, P, M).
Lawrence Drew Shaw (M).
John Black Stevenson (A, P).
Wm. David Henderson Stevenson, M.A. (A, P).
John Barbour Stewart (A).
William Stewart (A, P).
Arthur William Sutherland, M.A. (A, P, M).
John Wilson Sutherland (A, P, M).
Peter Lindsay Sutherland (A, P).
Joseph Walker, M.A. (A, P).
Hugh Fleming Warwick (A).
William Norman West Watson (A, P).
Robert Tait Wells, M.A. (M).
John Forrest Weston (A, P).
Joseph White, M.A., B.Sc. (M).
Griffith John Williams (A, P).
James Wilson (A, P, M).
Eldred Wright (P).
Hugh Young (A, P).
John Young, Glasgow (A, P).
Watson Young (M).

WOMEN.

Jeanie Auld (P).
Annie M'Caig Black (P, M).
Agnes Wallace Cameron (P).
Mary Charlotte Cameron (A, P).
Ethel Lily Chapman (P).
Jessie Galloway Duncan (A, P).
Jane Reid Foulds Gilmour (A, P).
Margaret Hardy (A, P).

Alice Wesley Maclean (P).
Mary Lauchline M'Neill (A, P).
Anna Pollock Martin (P, M).
Eliza Jane Miller (A, P).
Isabel Deane Mitchell (A, P).
Charlotte Reid Park (P).
Ethel Jane Mildred Pryce (P).
Margaret Hossack Smart (A, P).
Jessie Marie Stewart (A, P).
Elisabeth Taylor Talbert (A, P).
Janet Gardner Waddell (A, P).

The following have passed the third professional examination for the degree of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects indicated (P, Pathology; M, Medical Jurisprudence and Public Health):—

William Armitage (M).
Alexander Grey Banks (P, M).
Robert Bryson (M).
George Frederick Buchan (P, M).
John James Young Campbell (P, M).
Alexander Adam Carruthers (P).
Walter Bartlett Chapman (P, M).
Ernest Hamilton Cramb (P, M).
Hugh William Crawford (P, M).
Alexander Dick (P, M).
Donald Douglas, M.A. (P).
Andrew Robertson Dow (P, M).
William Dow (P).
John Ferguson, M.A. (P, M).
Thomas Forsyth (P, M).
John Andrew Garden (P, M).
John Ritchie Gilmour (M).
John Miller Gordon (P, M).
John Guthrie (P, M).
John Andrew Hagerty (P).
Ronald Dingwall Hodge (P, M).
John Brown Dalzell Hunter (P, M).
Ernest David Jackson (P, M).
George Rutherford Jeffrey (P, M).
William Fletcher Kay (P, M).
John Kennedy (M).
Andrew Miller Kerr (P, M).
Stanley Everard Lewis (P, M).
Joseph Paterson Lusk (M).
Daniel Douglas M'Dougall, M.A. (P).
Alexander Macintyre (P, M).
John Chancellor M'Kenzie (P, M).
Thomas M'Laren (P, M).
Alexander Maclean (M).
John Maclean (P, M).
Dugald Henry MacPhail (P, M).
Richard Makins (P, M).
Robert Harry Manson (M).
Harry Somerville Martyn, M.A. (P).
Robt. Menzies (P).
James Grant Millar (P, M).
Wm. Alexander Milne (P, M).
John Muir (P, M).
James Stuart Nicolson (P, M).
Robert Orr (P).
Thomas Rankine (P, M).
John Mark Reid (P).
Thomas Richmond (P, M).
David Riddell (P, M).
William Robertson, Blackwood (P, M).
Norman Cumming Rogers (P).
James Russell (M).
Malcolm Bernard Gathorne Sinnette (P, M).
John Williamson Smith (P, M).
Robert Cassels Smith (P, M).
David Spence (P, M).
John Stevenson (P, M).
Robert Rennie Swan (P, M).
William Wagner Turner (P, M).
John Unsworth (P, M).
Thomas Irby Wallace (P, M).
Alexander Brown Watt (P, M).
Peter Millar Waugh (P, M).
David Ashley Wilson (P, M).
John Wilson (M).

WOMEN.

Helen Stephen Baird, B.A. (P).
Jessie Seath MacEwen (P, M).

At the above professional examinations for the degree of M.B., Ch.B., the following candidates passed with distinction in the subjects indicated:—

First Examination.—In Botany and Zoology: Robert B. Carslaw, M.A. *In Zoology and Physics:* John Taylor. *In Zoology and Chemistry:* James H. Baird, Thomas Thom. *In Zoology:* Walter G. Macdonald, M.A.; Norman

H. W. Maclaren, Matthew T. D. M'Murrich, Arthur Robertson, John M. Ross, Alexander C. Russell, Joseph R. Sutherland. *In Physics:* Elizabeth M. M'Vail. *In Chemistry:* Frank Hauxwell, William L. Kirkwood, Morrison W. Smith, William Y. Turner, George Young.

Second Examination.—In Anatomy and Physiology: Alexander Matheson, M.A.; William D. H. Stevenson, M.A. *In Anatomy and in Materia Medica and Therapeutics:* James Eadie, Spencer Mort, William G. Shand. *In Physiology and in Materia Medica and Therapeutics:* John W. Sutherland. *In Anatomy:* Joseph Walker, M.A. *In Physiology:* Robert J. Arthur, Peter L. Sutherland. *In Materia Medica and Therapeutics:* Alexander Blair, Cunison C. Finlator, Daniel F. Riddell, M.A.

Third Examination.—In Pathology: John A. Garden, Ernest D. Jackson, Andrew M. Kerr. *In Medical Jurisprudence and Public Health:* George F. Buchan, William W. Turner, Peter M. Waugh.

NEW PREPARATIONS, &c.

Tabloid Iron Citrate Compound (London: Burroughs Wellcome & Co.) has the following formula:—Citrate of iron and ammonia, gr. 3; sulphate of quinine, gr. 1; arsenious acid, gr. $\frac{1}{60}$. This tabloid compound is sugar coated, and is supplied in bottles containing 25 each.

Tabloid Ergotin, gr. 1 (London: Burroughs Wellcome & Co.) is a convenient mode of administering ergot in cases where small doses have to be given regularly for some time. The tabloids are sugar coated, and are supplied in bottles containing 100 each.

Tabloid Beta-Naphthol Compound (Burroughs Wellcome & Co.).—The formula for this elegant and convenient preparation is—Beta-naphthol, gr. 1; wood charcoal, gr. 4; oil of peppermint, min. $\frac{1}{2}$. The combination is obviously very suitable for cases of flatulent dyspepsia and other allied conditions. It is supplied in bottles containing 25 tabloids each.

Mercurol (London: Parke, Davis & Co.) is a chemical compound of mercury with nucleinic acid, the latter being obtained from yeast. It is a brownish-white powder, soluble in water, but not in alcohol. It does not precipitate albumen, and is not precipitated by alkalies. The combination with nucleinic acid is said to make the action of the mercury less irritating and more effective. Mercurol has been recommended for use as an injection in gonorrhœa, in a strength of from one-half to 2 per cent watery solution, and it has also been used in ophthalmic practice. Internally, it has been administered in cases of syphilis. Mercurol contains about 10 per cent of mercury.

SUPRARENAL LIQUID WITH CHLORETONE (Parke, Davis & Co.).—One part of this solution corresponds to one part of the fresh suprarenal gland. It contains 0·8 per cent of chloretone, and though this is added primarily with a view to preserve the aqueous extract of gland in a condition of sterility and physiological activity, it is claimed that both drugs retain their peculiarities when thus combined. The preparation thus possesses an anæsthetic action equivalent to a solution of about 2 per cent of cocaine, and may be regarded as an astringent, hæmostatic, local anæsthetic, and perhaps antiseptic.

IMPROVED MEDICINE BOTTLES (Medical Requisites Co., Manchester).—We have received specimen bottles of different sizes, but with necks of a uniform internal diameter, so that only one size of cork is required for all the common sizes of bottles—a device which must commend itself to the busy dispenser as a very useful one. Further details will be found in our advertising pages.

MEETINGS OF SOCIETIES.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

SESSION 1900-1901.

MEETING VII.—21ST DECEMBER, 1900.

The President, MR. H. E. CLARK, *in the Chair.*

THE NATURAL AND ARTIFICIAL MINERAL WATERS OF NAUHEIM: THEIR PHYSIOLOGICAL AND THERAPEUTICAL EFFECTS: THEIR EMPLOYMENT IN DISEASE (THE SCHOTT METHODS): AND THE METHOD OF PREPARING THE ARTIFICIAL BATHS.[1]

BY DR. J. M'GREGOR-ROBERTSON.

After explaining the routine of the treatment at Nauheim, the paper went on to show the general characters and chemical composition of the drinking and bathing springs of Nauheim, as well as of the bye-products obtained by evaporation of the water for the removal of common salt.

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[1] The paper in full is to be published in the *Edin. Med. Journ.*

The physiological action of the waters was fully discussed. It was pointed out that much of the failure to recognise the value of the Nauheim treatment was due to the fact that it was assumed that—the water being below the temperature of the body—constriction of the cutaneous arterioles would be brought about, followed by a rise of blood pressure, which might be disastrous in the case of a weak heart or sclerosed vessels. Exactly the reverse was the effect, namely, a general cutaneous vaso-dilatation producing a diminution of peripheral resistance, but this was accompanied by an increased energy of cardiac contraction, due to a reflex effect upon the heart regulator nerves. The heart was thus not only directly stimulated, but also unburdened, by the complete redistribution of blood effected by the determination to the skin. Proof of these results was to be found in the determinations of blood pressure and pulse-rate by recent precise methods by Oliver, Edgecombe and Bain, and others.

The therapeutic employment of the baths could be argued out from the knowledge of these physiological effects, and the theoretical reasoning was found to be in accord with clinical experience.

The baths were of value in (1) cases influenced by changes in general nutrition—such as rheumatism, gout, and glandular conditions; in (2) cases of dilatation of the heart, or simple cardiac asthenia, without valve lesion; in (3) cardiac cases, with failing compensation; and in (4) irritable nerve conditions—such as Graves' disease, tachycardia, and peripheral neuritis.

The paper went on to discuss the method of employing the baths along with exercises, after the manner of Schott, and showed how the employment of very gentle muscular exercises produced results comparable to those of the baths, the muscles becoming flushed with blood, and so relieving the heart and lowering the peripheral resistance, while from the muscles also a reflex effect upon the heart was produced.

The paper concluded with an explanation of the method of imitating the Nauheim waters with the aid of Nauheim bath salt. The author had constructed a series of formulæ for baths, of varying strength, from the tables of chemical composition of the waters. The series was based upon the Schott method of beginning with weak thermal saline baths, and gradually strengthening the bath by the addition of motherlye, till the patient was prepared for the full effervescing bath. His No. 1 artificial bath represents the Nauheim thermal Soolbad, Nos. 2, 3, 4, and 5 representing the same bath, with the addition of one, two, three or four litres of Mutterlauge.

MEETING VIII.—11TH JANUARY, 1901.

The President, MR. H. E. CLARK, *in the Chair.*

I.—DEMONSTRATION OF A VARIETY OF POLYPI REMOVED FROM THE NASO-PHARYNX.

BY DR. WALKER DOWNIE.

Leaving hypertrophies of the post-nasal gland tissue out of account, the majority of the new growths which are met with in the naso-pharynx are either mucous polypi, fibro-mucous polypi, or true fibromata. Examples of these three varieties of new growths are before us to-night.

When the naso-pharynx contains a polypus, there is, in addition to the symptoms of nasal obstruction, considerable pharyngeal discomfort, excessive secretion, which collects in the pharynx, interference with mastication and deglutition (chiefly because of nasal obstruction), and occasional reflex symptoms, particularly of the asthmatic type. Occasionally, however, thickness of speech is the only indication of the presence of a new growth in this space.

MUCOUS POLYPI.

When mucous polypi are found in the naso-pharynx, they almost invariably spring from some portion of the nasal fossæ, and they usually have well-marked, and sometimes long, pedicles. They occur more frequently than is generally supposed, and their presence is, in many instances, the reason of nasal obstruction persisting after the removal of intra-nasal polypi.

Specimen 1 is an irregularly-shaped mucous polypus, which sprang from the posterior end of the left middle turbinal bone in a child, 5 years old. It lay in the naso-pharynx, blocked both posterior nares, caused snoring respirations, thick speech, and frequent cough. It was removed by the snare passed through the nose under chloroform.

Specimen 2 is a large polypoid swelling from the posterior extremity of the right middle turbinal in a girl, aged 9 years. It very completely filled the upper half of the naso-pharynx, and was removed by the snare passed through the nose under chloroform.

Specimen 3 is a pear-shaped pedunculated mucous polypus, which sprang from the posterior extremity of the left middle turbinal in a girl, aged 9 years. It lay freely movable in the naso-pharynx, and was removed by the snare passed through the nose under cocaine.

Specimen 4 is a mixed specimen, and is really two polypi. The larger pear-shaped body is a fibro-mucous polypus, while the second growth, springing from the larger with a well defined pedicle, is a mucous polypus. The specimen was removed from a boy, aged 13 years, who had complete nasal obstruction. The fibro-mucous portion sprang from the posterior end of the right middle turbinal, and lay in the naso-pharynx, while the mucous outgrowth lay in and blocked the left posterior nares. Removed by snare passed through the nose under chloroform.

Specimen 5 is a long mucous polypus, which takes a peculiar spiral form. It occurred in a girl, 13 years old, and sprang by a very fine pedicle from the posterior extremity of the left middle turbinal, from which it hung downwards, so that the lower border was in a line with the free border of the soft palate. Removed by snare passed through the nose under cocaine.

Specimen 6 is a sausage-shaped mucous polypus, which sprang from the posterior end of the left middle turbinal in a lad of 19. It occupied the post-nasal space, gave rise to symptoms of persistent head-cold, with nasal obstruction. The lower end of the growth projected below the border of the soft palate, and viewed through the mouth it was seen to hang down behind the uvula. Removed by snare passed through the mouth under cocaine.

Specimen 7 consists of two rounded mucous polypi, each with a very fine pedicle, which protruded, one from the right and one from the left posterior nares, into the naso-pharynx. They together caused complete nasal obstruction. Removed from a lady, 22 years of age, by snare passed through the nose under cocaine.

Specimen 8 is a well-marked pear-shaped mucous polypus, with a very thin pedicle. There is a small pedunculated mucous outgrowth on its posterior aspect. It very completely filled the naso-pharynx in a girl, aged 24, and was removed by the snare passed through the nose under cocaine.

Specimen 9 consists of a group of three variously shaped mucous polypi, each with a fine pedicle, and which together filled the naso-pharyngeal cavity in a man, aged 26. They were removed separately by the snare passed through the nose under cocaine.

Specimen 10 was a large, very soft, mucous polypus, which, springing by a very fine pedicle from the right middle turbinal, lay in the naso-pharynx of a man, aged 30. Removed by snare passed through the nose under cocaine.

Specimen 11 is a large mucous polypus, removed from a woman, aged 36. It sprang from the posterior half of the left middle turbinal. The large flat portion occupied the posterior half of the left nares, while the long rounded portion lay in the naso-pharynx. Removed by snare passed through the nose under cocaine.

Specimen 12 is a large flattened mucous polypus, from a man, aged 45. His own doctor had removed several mucous polypi from the left naris without relieving the obstructive symptoms. By the post-rhinal mirror the left posterior naris was seen to be blocked by this flat mucous growth. Removed by snare passed through the nose under cocaine.

Specimen 13 is a large, firm, mucous polypus, which ends in a curious upturned beak. It occurred in a lady, aged 48. She had had nasal obstruction for many years. On inspiration, while the left naris was completely blocked, air passed through the right naris, but on expiration both nares were completely obstructed. The growth sprang from the posterior extremity of the left middle turbinal, and very fully occupied the naso-pharynx. The body of the growth blocked the left naris constantly, while the beak entered and blocked the right posterior naris during each expiratory effort. Removed by snare passed through the nose under cocaine.

Specimen 14 is a pear-shaped mucous polypus, from a man, aged 30. It sprang by a long fine pedicle from the posterior end of the right middle turbinal, and lay in the naso-pharynx. An ulceration of its surface led to expectoration of blood, which disappeared after removal of the growth. Removed by snare passed through the nose under cocaine.

Specimen 15 is a pear-shaped mucous polypus, from a gentleman, aged 64. It sprang from the posterior end of the right middle turbinal, and occupied the upper portion of the naso-pharynx. It blocked the right nostril, and during two years prior to the time I examined him he had had frequent paroxysms of asthma during the night. The removal of the polypus was followed by the immediate and complete disappearance of all asthmatic symptoms. Removed by snare passed through the nose under cocaine.

Specimen 16 consists of two polypi—one a flattened, soft, mucous polypus, which sprang from the anterior end of the left middle turbinal, and the other a pear-shaped, firm, mucous polypus, from the posterior end of the same turbinal, and which lay in the naso-pharynx. Removed by snare passed through the nose under cocaine.

In the *removal* of mucous polypi from the naso-pharynx, the nasal fossæ and the walls of the post-nasal space should, in the first place, be deeply anæsthetised by the free application of cocaine. Where there are intra-nasal polypi present, these should, of course, be first removed, after which the cold wire snare is passed through, either in middle or inferior nasal meatus, the loop of wire being kept in touch with the septum throughout its progress backwards. When the loop has entered the naso-pharynx the polypus may be engaged by making a quarter of a turn of the snare, or the wire may be assisted to surround the growth by the forefinger passed through the open mouth and up behind the palate. When the loop has been slipped around the polypus, the wire is slowly tightened, and by a wriggling motion it is caused to grasp the growth as near the point from which it springs as is possible; then the growth may be torn away by a sudden jerk, or it be detached by cutting through its pedicle. The polypus, on being detached, may fall into the mouth; occasionally, when comparatively small, it slips into the gullet and is swallowed. A week after their removal the surface from which the polypi sprang should be freely cauterised, the result of which is the formation of firm scar tissue on which no recurrence can take place.

FIBRO-MUCOUS POLYPI.

The fibro-mucous polypi, of which I to-night show four specimens, are comparatively rare. The tumours, which are slow in growth, vary in size from that of a damson to that of a Victoria plum. They are smooth on the surface; usually, though not necessarily, dark-red in colour when *in situ;* are rounded in form, and, as a rule, have a very short pedicle.

Panas, quoted by M'Kenzie, first drew attention to the anatomical reasons for the difference in structure of the intranasal and naso-pharyngeal polypi. The mucous membrane round the posterior nares and in the immediate neighbourhood of those orifices presents a kind of transitional form between the mucous membrane of the nasal fossæ, and the dense, closely adherent fibro-mucous lining of the pharyngeal vault. Growths in these situations are composed, to a great extent, of the structural elements of the tissue from which they originate, and whilst a polypus springing from the pituitary membrane may be expected to be of mucous texture, one from the under surface of the basilar process is likely to be fibrous; and a tumour taking origin from the membrane round the posterior nares, where the fibrous and mucous elements are mingled, will probably present a corresponding fibro-mucous structure.

Three of the fibro-mucous polypi, which I show to-night, were removed by means of the cold wire snare, and the fourth by forceps. The snare was passed through the nose in two of the cases, and in the third it was passed into the naso-pharynx through the mouth.

As their removal is frequently followed by smart hæmorrhage, the electric cautery snare is recommended by some; but the bleeding usually is of short duration, and ceases spontaneously, and when it does not do so it is readily controlled by pressure within the naso-pharynx. Personally, I prefer the cold wire snare, as being more quickly and more accurately manipulated. Fibro-mucous polypi, unlike the mucous variety, show little tendency to recur after removal.

Specimen 17 is a large, round, firm, fibro-mucous polypus, from a boy, aged 14. He had greatly hypertrophied tonsils, with a history of complete nasal obstruction, with considerable deafness for fully six months, and these latter symptoms were supposed to result from the presence of post-nasal adenoids. Both tonsils were removed under chloroform, after which it was found that the naso-pharynx was completely filled by this polypus. It was then removed by the snare passed through the mouth while he was still under the anæsthetic.

Specimen 18 is a large, flattened, firm, fibro-mucous polypus, from a gentleman, 80 years of age. His right naris was completely occupied by large mucous polypi, while this fibrous growth sprang from the posterior extremity of the right middle turbinal, and hung downwards in the naso-pharynx. It was removed with forceps along with a portion of the middle turbinate bone under cocaine. Thirteen years previous to my operation, the late Professor Spence, of Edinburgh, had removed many mucous polypi from the same naris.

Specimen 19 is a rounded, rather fibrous than fibro-mucous tumour, from the naso-pharynx of a lady, aged 77. She had had mucous polypi in both nares for fully twenty-five years, and the growth in the pharynx had also been present for many years. It sprang from the posterior wall of the pharynx, and lay opposite the posterior nares. She was the mother of a doctor, and prior to taking chloroform, she urged him to promise that the growth in the throat should not be touched, as she feared serious hæmorrhage. After removing the intranasal polypi, I found that the growth had a very small area of attachment, and so removed it. There was practically no bleeding, and the old lady was greatly delighted to find her throat, as well as her nose, clear when she awoke. Removed by the snare passed through the mouth under chloroform.

Specimen 20 is also a firm polypus. which might be characterised as fibrous, from a gentleman, 80 years of age. The right naris contained many large mucous polypi, and this fibro-mucous growth sprang from the posterior end of the right middle turbinal. It was attached by a small pedicle, and the growth filled the upper half of the naso-pharynx. Removed by snare passed through the nose under cocaine.

FIBROUS POLYPI.

Of the third variety—the fibrous polypus—I show one specimen removed (12th November, 1892) from the naso-pharynx of a boy, aged 11 years. He had complained of difficulty of breathing through the nose for many months, and for at least eighteen months he had snored loudly while asleep. The naso-pharynx was, on examination, found to be completely occupied by a large fleshy growth, which bled readily on manipulation. On digital examination, under chloroform, the growth was found to spring from the vault of the pharynx. Its extirpation was attempted by means of a chain écraseur, but this instrument broke while crushing through the firm fibrous pedicle. It was latterly removed by torsion, while firmly grasped by a wire-rope écraseur. Twelve months later a somewhat similar tumour appeared in the superior maxilla. This was excised by Dr. Knox in the Royal Infirmary, and the result has been subsequent immunity.

These growths, though histologically innocent, present many of the characteristics of malignancy. They, like this one, spring from the vault of the naso-pharynx, from which they extend into the nasal fossæ, or even invade the antrum, leading to nasal obstruction and facial disfigurement. They usually occur in males between the ages of 10 and 25, they are intimately associated with the periosteum and bone, and originate, in all probability, in some developmental aberration.

II.—CASE OF JAUNDICE DUE TO A LARGE IMPACTED GALL-STONE, WHICH WAS REMOVED BY OPERATION.

By Dr. David Newman.

The patient had been in Dr. Middleton's ward, and was transferred to Dr. Newman's, on account of an attack of jaundice with severe pain, pyrexia, and tenderness in the abdomen. The following is an abstract of the history of the case:—

Mrs. R., aged 45 years, was admitted to Ward 15 of the Glasgow Royal Infirmary on 11th October, 1900. She complained of pain in the hepatic region and in the right flank, Her present illness began about the end of July, 1900, when she was seized with pain in the abdomen and sickness, but there was no diarrhœa. The pain was dull and aching in character, and became worse on pressure over the painful area, but it was never sharp or shooting in character. At this time (July) she was confined to bed for two weeks, and in August she noticed for the first time that she was jaudiced. This, however, passed away. The urine was dark in colour previous to the onset of the attack, the bowels constipated, and the motions clay coloured. In July, 1899, she had a similar attack to the one occurring a year later. On admission to the medical ward she admitted that she had been losing flesh. The skin was jaundiced over the surface generally, and there was yellow tinting of the conjunctivæ. The liver dulness was increased in a downward direction, the lower border in the middle line being 2 inches below the ensiform cartilage, and in the nipple line the hepatic dulness extended as far down as the level of the umbilicus. On palpating over this dull area pain was complained of, a rounded mass could be felt by the hand and could be detached from the liver, and on deep palpation it presented a nodular feeling to the hand. There was no enlargement of the spleen, the heart and lungs were normal, temperature also normal, the pulse was 84, the respirations were 20; there was no œdema of the feet or legs. The urine was acid, its specific gravity 1024, there was a trace of albumen, and a considerable quantity of bile pigment. The following note was made on 24th

September:—"The swelling at the lower border of the liver varies in size, at times it can scarcely be felt at all; the degree of icterus also changes day by day; there has only been one attack of pain in the right side since admission, it was relieved by hot fomentations; there has been no rise in temperature; and no gall-stones have been found in the motions."

3rd October, 1900.—"The patient has had several attacks of pain and sickness since the last note, and the jaundice is much more marked than on admission."

11th October.—"On the 3rd inst., the temperature rose to 103°, and since then has been oscillating between 99° and 101° until yesterday, when the highest record was 100·4°. Coincident with the rise in temperature, there was increase in the pain and a deepening of the jaundice, and latterly a considerable increase in the size of the swelling. The patient was seen yesterday by Dr. Newman, who regarded it as a case of impacted gall-stone, and one suitable for exploration; the patient was therefore transferred to the surgical house to-day."

24th October.—"The abdomen was opened this morning by Dr. Newman, and the gall-bladder was found to be adherent to the end surface of the liver. When the gall-bladder was opened, a large calculus was found blocking its orifice. The calculus was hour-glass shaped, one portion being in the gall-bladder, the other part being in the distended gall-duct. The calculus was firmly adherent to gall-bladder and to the duct throughout, so that it was impossible to remove the stone entire; it was therefore removed piecemeal. The gall-bladder was divided from end to end, and the incision carried to the apex of the stone in the distended gall-duct. After the stone had been completely removed, the interior of the gall-bladder and the duct were scraped with a Volkmann's spoon, the line of the incision was sutured together with the exception of the lowermost extremity, which was stitched to the wound in the abdominal wall, and a drainage-tube inserted from end to end. The sinus was kept open for six weeks, during which period the patient's general health greatly improved, but, except on one occasion, there was no evidence of bile escaping into the intestine, the bowels being very constipated and the motions clay coloured."

"As it seemed necessary to take further steps, the patient was prepared for operation on 18th December, the purpose being to anastamose the gall-bladder with the duodenum, but during the night a well-coloured motion was passed, and as this seemed to indicate that the bile-duct was again opened, it was decided to postpone any further operative measures."

25th December.—"The improvement in this case has been well maintained, and the motions are still well coloured and moderately regular; there is now little discharge from the fistulous opening, and in all respects the patient's condition is greatly improved."

7th January, 1901.—"The patient was dismissed to-day, there being still a slight amount of discharge from the fistula. She reported herself a fortnight later, when the fistula was found to be completely healed and the patient in perfect health."

III.—FOUR CASES OF UNILATERAL RENAL HÆMATURIA WITHOUT OTHER SYMPTOMS OF DISEASE BEING PRESENT.

BY DR. DAVID NEWMAN.

In the majority of cases of renal hæmaturia, the surgeon can easily locate the situation of the bleeding to one kidney, and form an opinion as to the nature of the lesion; in a few instances, however, he can only determine the side from which the blood comes, and complete his diagnosis by making an exploratory incision. But even when the kidney has been exposed, it is not always possible to find the cause of the bleeding, and hence some observers believe in the occurrence of hæmaturia independent of a morbid lesion, or "*hæmaturia sine materia.*" The term "symptomless hæmaturia" has also been in use for a considerable time, and indicates the revival of an old idea. That it has been accepted by the profession is not to be wondered at, seeing that the word "hæmaturia" is often employed, not as it were to denote a symptom, but as the name of a disease. The appearance of blood in the urine is itself a symptom, consequently "symptomless hæmaturia" is a misnomer; we might as well speak of "symptomless albuminuria," "symptomless hæmoptysis," or "symptomless aphonia."

It has been stated that, after the kidney has been removed for the relief of a persistent hæmaturia, inspection of the organ, and even a microscopic examination of the tissue, may fail to reveal any morbid condition. Admit that these observations are correct, do they prove that bleeding may take place from a healthy organ? When a kidney is excised, the vascular condition of the tissue, as it existed during the life of the organ, cannot be ascertained. Again, every pathologist knows that certain morbid conditions associated with bleeding during the life of the patient, the surface from which the blood escapes may show no evidence of injury or of disease to explain the occurrence.

The four cases have several points in common—in all the hæmaturiæ were profuse and lasted over considerable periods; the bleedings were localised to one kidney by cystoscopic examinations; and in all of the cases, beyond the bleedings, the other symptoms were trivial. In the three cases first described, palpation of the kidney was rendered extremely difficult.

CASE I. — *Sudden profuse hæmaturia, continuous for eighteen days, intermittent thereafter for six months—Thrombosis and hæmorrhagic infarction in left movable kidney—Nephrorrhaphy followed by disappearance of the bleeding.*

J. M., aged 52 years, a labourer, was admitted into the Glasgow Royal Infirmary on 1st December, 1899, suffering from hæmaturia. He always considered himself in good health up to the end of June last; at this time blood appeared in his urine, making it, he stated, almost black in colour. He sought medical advice, and was placed under medicinal treatment, but the bleeding continued for eighteen days, during which time he continued his work. The hæmaturia then disappeared suddenly and remained away for three days. Since that time the blood has been present with occasional intervals of a day or two. The presence of the blood bore no relation to exercise, although he stated that the colour of the urine was darker from 7 A.M. till 12 mid-day, the former being his hour for commencing work, but he did not stop work till 6 P.M. Pain was not a feature of his illness, as he only complained of this for one day about three months prior to admission. The pain was seated in the bladder and urethra, and lasted during micturition only. It was associated with undue frequency in passing water, and the patient thought that blood was present in greater quantity than usual at that time (July, 1899). There was no alteration in the character of the stream or sudden stoppage of the flow, nor had he ever noticed anything definite in the way of gravel. There had been no crystalline deposit, no blood-casts or other renal casts, and œdema was not present.

On admission, he appeared to be a fairly well nourished man, but anæmic from loss of blood; the heart, lungs, liver, and spleen were normal; there was no tenderness or dulness on percussion over the region of the kidneys, nor did they appear to be enlarged. On account of the formation of the chest, palpation of the kidneys was not possible; the lowermost ribs almost touched the crest of the ileum. The urine was almost porter coloured, with a specific gravity of 1026, and a slightly acid reaction. Albumen was present, but not in greater quantity than the blood warranted. No crystals and no tube-casts present, and no tubercular bacilli were discovered.

3rd December.—A cystoscopic examination was made to-day by Dr. Newman. The mucous membrane of the bladder was found to be normal, but deeply stained urine was seen to escape from the left ureter.

22nd December.—Since admission the blood has, if anything, become slightly less abundant. To-day an exploratory incision was made, when the left kidney was found situated very high up, close to the diaphragm. The organ was rotated on its short axis, the upper margin being thrown forward, while at the lower third of the kidney there was a wedge-shaped hæmorrhagic infarction. The kidney was restored to its normal position, and sutured to the parietes.

The patient was dismissed on the 23rd January, 1900. Blood still continued to appear in the urine occasionally, but in a much smaller amount than formerly. Occasionally it was entirely absent for two or three days at a time during the last couple of weeks.

9th March, 1900.—The patient presented himself to-day; he has put on flesh and looks well, and he stated that the urine has been free from blood for three weeks.

7th May.—The patient reported himself to-day, and stated that since he last presented himself the urine has been free from blood. He appears now to be in perfect health.

CASE II.—*Frequent intermittent unilateral hæmaturia from torsion of the renal veins in movable kidney, cured by nephrorrhaphy.*

J., aged 29 years, was admitted to the Sandyford Home on the 4th September, 1899. In May, 1899, he sustained slight fall on the right side, the edge of a step coming in contact with the right lumbar region. The urine first passed after the accident was observed to contain a moderate quantity of blood. This continued at frequent intervals, the shortest being two and the longest five weeks; the hæmaturiæ, as a rule, lasted for from four to nine days; generally the urine was of a dark port wine colour, and was always relieved, and often stopped, by rest in bed. During the attacks of hæmaturia there was slight discomfort and a feeling of dragging in the left renal region, but nothing amounting to pain. Palpation of the kidney was not possible on account of the stoutness of the patient. The urine contained no abnormal constituent beyond blood. On examination with the cystoscope, blood was seen to flow from the right ureter only. A fortnight after admission nephrorrhaphy was performed, when the kidney was found to be freely movable, and of a dark chocolate colour throughout. The kidney was fixed by means of sutures, and thereafter the hæmaturia disappeared and has not returned.

CASE III.—*Unilateral renal hæmaturia, continuous at first, afterwards intermittent, during six months—Round-celled sarcoma of left kidney—Nephrectomy—Death from sudden collapse on the fourth day.*

J. R., aged 22 years, was admitted into the Glasgow Royal Infirmary on 25th December, 1899, complaining of hæmaturia. At the beginning of August, 1899, he, for the first time, observed his urine contained blood. He was attended by Dr. Frew, of Kilmarnock, and was able to resume work in the course of a month, by which time the hæmaturia disappeared. He kept well until eight weeks prior to admission, when he became the subject of a second and similar attack, which differed, however, by the bleedings being intermittent. The urine was always clear from 10 A.M. till 4 P.M., even while he was not in bed. The blood was frequently absent entirely for a day at a time. The stream was always natural in form, was started without difficulty, and never at any time suddenly stopped. He frequently observed the presence of clots, but took no notice of their form; they usually appeared towards the end of micturition, after which the urine was much clearer. He never passed gravel, nor did he observe any gritty sediment; he never suffered from pain over the bladder, or from urethral pain, and was always free from œdema. On admission, he appeared to be fairly well nourished, but anæmic. The heart, lungs, and liver were normal. On palpating over the kidney only the lower margin could be felt, and only when pressure was made did the patient complain of pain. The chest was very deep, and the kidney unusually high up. The urine was deep red colour; specific gravity, 1025; and beyond blood there were a few epithelial cells, chiefly large round nucleated cells; no crystals and no tube-casts were discovered.

20th December.—By means of the cystoscope, blood was seen to escape from the left ureter only; the bladder was healthy.

On 5th January, 1900, an exploratory incision revealed the presence of round-celled sarcoma, about the size of a hen's egg, occupying the upper part of the kidney. The kidney was very inaccessible, being situated very high up. The kidney was excised along with the tumour. For the first three days after the operation the patient was remarkably well, but on the fourth day violent sickness set in, followed by sudden collapse, and the patient died on the 9th of January. A *post-mortem* examination was not permitted, but an examination of the wound showed that there had been no hæmorrhage.

CASE IV.—*Profuse and continuous unilateral renal hæmaturia—No exploratory incision or operation—Medicinal treatment successful.*

T. B., aged 65, labourer, was admitted to the Glasgow Royal Infirmary on the 8th of February, 1900, suffering from hæmaturia of two months' duration. With the exception of attacks of influenza in 1897 and 1899 respectively, he always enjoyed good health up till the onset of his present illness. This he dates from the middle of December, 1899, at which time he noticed his urine to be of a brown colour. He followed his occupation until the New Year, but becoming the subject of neuralgic pains in his head, he took to his bed and sought medical advice (Dr. Benny, of Denny), learning then for the first time that the colouration of his urine was due to the presence of blood. The hæmaturia remained constant up to the time of admission, but the urine varied slightly in depth of colour from time to time, but without any relation to exercise or rest. The stream itself, he stated, was quite natural, but he admitted frequency of micturition since the onset of the illness. The stream was uniform in colour, and he never observed any alteration of the quantities. The urine was free from clots, gravel, or gritty matter of any kind. Pain was entirely absent, and he never suffered from œdema of the feet or legs, his only symptom being, in fact, the hæmaturia. He was confined to his bed since the beginning of the year. The patient was a poorly nourished man, older in appearance than his years indicate. The complexion was sallow, but neither the cheeks or the mucous membrane gave evidence of any marked anæmia; the tongue was moist and clean; the pulse regular, of fair tension, 75 per minute, the accessible arteries presented marked evidence of calcification; respiration 16 per minute; there was no œdema, temperature normal, nothing could be detected by palpation or percussion of the kidneys, nor was there anything abnormal to be discovered in his abdomen. The heart apex beat was visible and tangible in the interspace inside the nipple line. The precordial dulness was slightly encroached upon by the adjacent lung. The first sound at the apex was somewhat toneless, but there were no murmurs; lungs normal and spleen normal; urine of a deep red colour, with a deposit of blood corpuscles; specific gravity of 1072, reaction acid, albumen fairly copious, no sugar, and the microscope revealed nothing but red and white blood corpuscles.

9th February.—A cystoscopic examination was made by Dr. Newman this morning. The bladder was found to be normal, but blood-stained urine was observed flowing from the left ureter. Another cystoscopic examination was made on the 15th February; again blood was seen escaping from the left ureter, and also a small blood clot was observed adhering to the orifice.

Considering the feeble condition of the patient it was not considered advisable to explore the kidney. A prescription was ordered, containing 10 drops of tincture of cannabis indica and a teaspoonful of hazeline, and this was given three times a day, and complete rest was enjoined.

3rd March.—Following the treatment of complete rest in bed, combined with dietetic and medicinal treatment, the amount of blood in the urine gradually became less.

7th March.—Urine quite free from blood yesterday and to-day, the diminution having been gradual since the treatment was instituted.

17th March.—Patient was dismissed to-day, having been allowed out of bed since the 11th inst., the urine still keeps entirely free from blood, and his general condition has improved. He has instructions to continue the medicinal treatment, and to report himself in a fortnight.

5th June.—Patient has regularly reported himself at intervals of a fortnight or three weeks, and since 14th March there has been no recurrence of the hæmaturia.

In this case it was extremely difficult to say what was the condition present in the left kidney, but it is quite possible that the morbid lesion was the same as in Case I.

IV.—CALCIFIED MESENTERIC GLAND REMOVED FROM A CASE IN WHICH LAPAROTOMY WAS PERFORMED FOR THE RELIEF OF SYMPTOMS OF RECURRENT INTESTINAL OBSTRUCTION (FRESH SPECIMEN).

By Dr. J. H. Nicoll.

The patient, a man of middle age, was sent to me by his medical adviser with a history of recurrent attacks of constipation, accompanied by much griping pain, collapsing sickness, and vomiting. The attacks recurred at intervals extending from days to weeks, and lasting for from twelve to forty-eight hours. The pain was referred chiefly to the region of the sigmoid.

Abdominal section was performed this morning in a nursing home.

The meso-sigmoid was found to be of unusual length, and anchored by adhesions on its outer side to the fascia of the iliac and inguinal regions, which was drawn out into a fold terminating in numerous elongated bands. The mesial aspect of the elongated meso-sigmoid was entirely free from such adhesions.

Scattered over the entire mesentery (so far as the exploring hand could reach) were numerous small hard bodies. One of these, excised for diagnostic purposes, forms the specimen. It appears to be a perfectly calcified mesenteric gland.

It is of interest chiefly as illustrating in its extreme hardness a perfect degree of calcification. The other nodules present appeared to the sense of touch to be equally hard.

There was a history of peritonitis (tubercular ?) in youth.

OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

SESSION 1900-1901.

MEETING VI.—27TH FEBRUARY, 1901.

The President, DR. ROBERT JARDINE, *in the Chair.*

I.—FRESH SPECIMENS.

A. BY DR. G. BALFOUR MARSHALL.

Large ovarian cystoma: Operation: Recovery.—I bring this specimen before the Society as an ovarian cystoma is now rarely permitted to grow to such an enormous size.

Mrs. A., aged 67, first noticed a swelling in the lower half of the abdomen on the left side in March, 1900. She was advised to leave it alone, and, as a consequence, the tumour continued to grow until she could no longer move about. I first saw her on 3rd February, 1901, and noted the following:—She was much emaciated, pale, and haggard looking. The nates and lower limbs were tensely dropsical, making locomotion very difficult. The abdomen was completely filled by an enormous cystoma, and projected downwards over the thighs. The lower ribs were pressed outwards, and the viscera so displaced and pressed upon that the cardiac apex was above the fifth rib, the stomach only admitted about 8 oz. of fluid nourishment at a time, and there was considerable dyspnœa on slight exertion. The cystoma was very fluctuant, with a solid portion in front extending from umbilicus to near pubes, and about 5 inches across. This portion proved, at operation, to be firmly adherent to the peritoneum, having undergone malignant degeneration. The skin of the abdomen showed numerous striæ owing to the excessive stretching. The percussion note was everywhere dull, except over a limited area posteriorly in both flanks.

The measurements were:—

Circumference just above iliac crests, .	46½ inches
„ at umbilicus, ...	45¼ „
Tip of sternum to pubic symphysis, . .	24 „
Ilio-umbilical lines, ...	12 „

I operated on 10th February, 1901, making a 5 inch incision below the umbilicus. The tumour was so firmly adherent that no peritoneum could be distinguished, and in searching for it I opened directly into the solid portion. By keeping outside the cyst wall, I worked upwards until I reached the abdominal cavity a little above the umbilicus. The cyst was everywhere free from adhesions, with the exception of the anterior portion already mentioned. Using a small trocar to avoid sudden reduction of pressure, over 32 pints of greenish fluid were slowly withdrawn.

The tumour proved to be composed of one enormous cyst, with a large solid portion in front composed of cysts the size of a pea, containing a tough gelatinous fluid. This solid portion was undergoing malignant degeneration, and had to be stripped from the anterior abdominal wall, to which it was firmly adherent. There was no distinct pedicle to the cyst, as it had partly grown between the folds of the right broad ligament, the Fallopian tube being stretched round the base of the tumour anteriorly. The ovarian artery was ligatured close to the uterus and at the infundibulo pelvic ligament, and then the base of the cystoma was dissected out, followed by the ligaturing of the tops of the broad ligament.

On the second and third day after operation large quantities of urine were passed—8 to 10 oz. every hour or so—due to absorption of fluid from the dropsical lower limbs. This caused great exhaustion, but after relief was obtained from this constant urination, the patient did well, and made an excellent recovery.

B. BY DR. JOHN EDGAR.

Suppurating intraligamentous ovarian cyst.—Mrs. C., æt. 34, was admitted into the Samaritan Hospital on 6th February, 1901, complaining of severe premenstrual pain of one and a half year's duration. Three children, the youngest 8 years old. Menstruation regular and free from pain till a year and a half ago; since then, three to five weekly, with severe shooting pains in pelvic region for two weeks before each period. Profuse leucorrhœa. Bearing-down feeling. Micturition painful, occasionally incontinence of urine. Constipation.

A year ago she was for six weeks in the Edinburgh Royal Infirmary, where she was examined under chloroform, but no operation was performed. She was told she had a tumour which would disappear at the menopause. The pain, however, afterwards increased so much that she sought admission into the Samaritan Hospital in order to have the tumour removed.

Examination. — Patient very stout. Abdominal wall pendulous in front. Small umbilical hernia. A mass, fully larger than a child's head, was felt to the right of the middle line, and extending up to the umbilicus. It was smooth, globular, tense, and non-sensitive. *Per vaginam*, it was found to be closely connected with the uterus.

Operation. — On 23rd February, 1901, a mesial incision was made up to and including the umbilicus. The tumour was then found to be an intraligamentous cyst of the right ovary, surrounded by numerous vascular adhesions. On tapping the tumour, a purulent fluid exuded. The cyst was then enucleated with considerable difficulty. The other ovary, which was also found to be cystic, was removed, with its corresponding tube. The uterus was then separated from the bladder, to which it was firmly adherent, and, finally, after paring the edges of the umbilicus so as to cure the hernia, the abdominal incision was closed with two layers of sutures.

[*Subsequent note.*—Patient made an excellent recovery.]

C. BY DR. COLQUHOUN ADAM.

Dr. A. W. Russell showed for Dr. Colquhoun Adam a case of meningocele in a new-born dead child.

D. BY DR. JOHN LINDSAY.

Dr. John Lindsay showed two specimens of human embryo in a very early stage of development.

II.—DISCUSSION ON DR. ALEX. MACLENNAN'S PAPER ON "AUSCULTATION IN THE MANAGEMENT OF LABOUR."[1]

Dr. Maclennan opened the discussion by giving a *résumé* of the principal points in his paper, on which he wished the opinion of the Fellows.

Dr. Carstairs Douglas said he agreed with Churchill that the first sound of the fœtal heart-beat was the stronger. With reference to the relation of rate to sex, he was inclined to consider it rather as a relation of rate to weight—the larger the child the slower the heart—and since, as a rule, male infants were larger than females, it followed that usually a fœtus presenting a slow beat turned out to be a male. One's calculations here, however, could be easily upset by the presence of a large female child.

Dr. G. Balfour Marshall said—The thanks of the Society were due to Dr. Maclennan for bringing forward such an interesting and instructive paper, as it was practically a condensed monograph on the subject. It gave evidence of much labour, judging by the copious bibliography, and he was to be congratulated. Auscultation is of the utmost value in the management of labour, and is, unfortunately, too much neglected, considering that it often gives us such information as guides us when to interfere on behalf of the child. Last year I attended a case where uterine inertia set in early in the first stage of labour, the membranes rupturing when the cervix was only the size of a crown, and allowing all the liquor amnii to drain away. The patient was permitted to remain in this condition for twenty-six hours, as auscultation every few hours proved the child was not affected. It was not till the lapse of this time that the stethoscope gave indication that interference was then necessary, so the child was delivered by forceps after artificial dilatation of the cervix.

Incident.—The fœtal heart is usually, about mid-term, best heard near the "fundus uteri," and may be noted as early as the seventeenth week; but the earliest I have detected it is at the eighteenth week. It is, however, very difficult to make out so early, and I have frequently listened for it in vain before the twenty-fourth week. I am almost inclined to doubt Underhill's statement that he heard the fœtal heart so early as the thirteenth week, as at this period the fœtus is so small, and the uterus barely above the pelvic brim.

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[1] This discussion was postponed from meeting on 23rd May, 1900. (See *Transactions* of Society, vol. ii, p. 209.)

Frequency.—I agree with Dr. Maclennan that the cardiac beats are very difficult to count, and a mistake may easily be made. This was brought prominently to my mind by a case where I detected two points of maximum intensity in the fœtal heart-sounds—one on the left side of the abdomen, low down, the other on the right, higher up. The difference between the two seemed to be ten beats per minute, and from this I diagnosed twins, the uterus at the same time being larger than usual. When the cervix was sufficiently dilated to allow the presenting part to be made out, it proved to be a face case, and not twins at all.

I consider it guess work to prognose a male birth from hearing a slower or more forcible heart-beat. I have been as often wrong as right in foretelling the sex, and our expected male may prove to be a large female child.

In the diagnosis of pregnancy.—Dr. Maclennan says that, "in every case after the seventh month these sounds should be heard if the child is alive." In this I do not agree with him. No doubt the sounds are there, but we may not hear them however carefully we search; it may be owing to a thick abdominal wall, abundance of "liquor amnii," or because the fœtus is lying with its back posteriorly. This is in contrast to these cases where a mother thinks her child is dead because she has felt no fœtal movements for a fortnight, and yet we can assure it is alive by hearing the fœtal heart. Where the sounds are difficult to locate with the stethoscope, a good method is to lay a towel on the abdomen and listen with the ear placed directly over the uterus. I have detected the fœtal heart by this procedure after previously failing with the stethoscope.

In the diagnosis of presentation, &c.—Auscultation combined with palpation is most valuable in aiding us to diagnose both presentation and position, the umbilicus being the usual guide, but owing to the variable position of this spot we must not depend on auscultation alone. If the fœtal head is kept above the brim, *e.g.*, by a deformed pelvis, the point of maximum intensity of the cardiac beat will be higher, and error must be avoided in this respect.

In management of labour.—Auscultation of the fœtal heart should never be neglected during labour, more especially after premature rupture of the membranes in the first stage and during the second stage. We may thus have an indication that interference is necessary for the sake of the child, when otherwise it would not be suspected.

Absence of cord pulsation during labour should not be taken as an indication that the child is dead. Over a year ago I attended a case of premature labour at the seventh month, the presentation being transverse, the cervix well dilated, and the cord prolapsed. No fœtal heart sounds were heard, and the cord was pulseless, although in no way compressed. After version, which was at once performed, a convulsive movement of the child's body, twice repeated, showed that the fœtus was alive, so I delivered rapidly with forceps, the fœtal head being high up owing to a flat pelvis with a 3 inch conjugata vera. After delivery, I found the fœtal heart feeble and below 100, the child in a state of asphyxia pallida. It was, however, resuscitated by artificial respiration continued for forty minutes, and the child is alive to-day.

The *President* said that they were all deeply indebted to Dr. Maclennan for the very able and exhaustive paper he had given them. The different points had been so fully dealt with that he did not think there was much that he could add. He would like to emphasise what Dr. Balfour Marshall had said about the difficulty of deciding that the fœtus was dead when no heart sounds could be detected. Last year they had had a case in the Maternity Hospital for several months, and on several occasions they had been unable to detect any fœtal heart sounds, while at other times they were quite audible. A live child was born at full time. He had recently seen a case in which the fœtus was supposed to have perished. He could not hear a fœtal heart, but he had detected fœtal movements through the stethoscope, and gave an opinion that the fœtus was still alive. It was born alive at full time.

He thought that auscultation ought to be much more systematically used during labour than was usually the case. He had to confess that he himself was guilty in this matter.

Before calling upon Dr. Maclennan to reply, he begged to tender him the thanks of the Society for the most interesting paper which he had communicated.

Dr. Maclennan replied, and thanked the Fellows for the way in which they received his paper.

III.—NOTES OF THE PROGRESS OF CURE OF A CASE OF PERSISTENT CYSTITIS WITH PHOSPHATIC CONCRETIONS.

BY DR. A. W. RUSSELL.

Very few of the disorders that come under the notice of the gynæcologist are more trying to the practitioner or distressing to his patient than the class of cases in which vesical irritability and pain are the predominant symptoms, and most of us have encountered patients whose life has been on this account a constant misery, hardly relieved even by the hours of sleep. In some it has been almost impossible to discover, either in the bladder or out of it, an adequate reason for the irritability; but not the least difficult to cure, or even to relieve, though perhaps the easiest of diagnosis, are the cases, such as one of which I wish to give an account to-night, which are associated with chronic cystitis.

The patient is 41 years of age, married, and the mother of three children. Another pregnancy, about two years before the birth of her third child, resulted in an abortion at the third month. She came to the Dispensary of the Samaritan Hospital in the beginning of August, 1898, complaining of frequency of micturition and almost constant pain over the bladder and towards the left side and back. There was also pain, described as "scalding," during micturition. The urine contained pus and blood, and showed a great quantity of thick "ropy" deposit which was mixed with a muddy granular material. Her bladder began to trouble her soon after the birth of her second child, eleven years ago, and she was admitted a year later into St. Peter's Hospital, London, where the bladder is said to have been curetted for ulceration. She experienced only temporary relief, and at frequent intervals ever since has required treatment, by washing out the bladder and other means, for the relief of her misery. As the case required in-door treatment, she was admitted to the Samaritan Hospital on 16th August, 1898. She was then carefully examined under chloroform by Dr. Edgar, Dr. Tindal, and myself. As the uterus was not in a satisfactory condition, it was curetted in the usual way. The urethra was afterwards dilated, and the bladder examined by means of Kelly's speculum and the electric light. Several patches of whitish deposit were seen on the mucous membrane. Menstruation came on four days later, blood appeared in quantity in the urine, and micturition was very frequent. After a fortnight the patient was again chloroformed for treatment of the bladder. After douching, which washed out little phosphatic masses, I dilated the urethra to admit my little finger, and, finding the bladder practically encrusted with phosphatic deposit, I gently and patiently rubbed it off, and then gave a boracic douche. As I had used ichthyol with very good result in one or two persistent cases of cystitis, which other means of treatment had not relieved, I now injected and left inside the bladder an ounce and a half of a warm 4 per cent solution of ichthyol. This was used several times afterwards. The urine continued to be alkaline, and boracic acid was given, but it did not agree. Benzoic acid was also tried. Before her discharge from the hospital, the bladder was again examined with Kelly's speculum, and it was noted as much less inflamed, and the sound discovered no deposit. The vesical irritability, however, was not satisfactorily relieved.

Some months later I saw the patient and examined her urine, which was as thick as ever. The case did not look promising, but I encouraged her to hope for cure. With her doctor I examined her, and found that no further deposit had taken place.

About a year after being in the Samaritan Hospital, she was examined by Dr. J. H. Nicoll and myself by means of the cystoscope. We saw no signs of growth nor of deposit, but there was well-marked congestion with enlargement of the blood-vessels. I had at this time been thinking about the effect of frequent injections of a dilute solution of nitric acid in the hope of dissolving the phosphates, and I decided to try this and to combine with it a solution of nitrate of silver in the following proportions:—Nitrate of silver, 16 grains; dilute nitric acid, 30 minims; water, 2 oz. After a boric acid douche, a drachm of this solution was added to 2 oz. of warm water, and the solution was then slowly introduced into the bladder. After several injections relief was so evident that it was continued daily until the patient was able to sleep through the night without being disturbed more than once, and to retain her urine for two or three hours at a time during the day. The nitric acid was afterwards increased to 60 minims. This treatment was continued for some months, the injections being given less frequently as the case improved. There was a corresponding improvement in her general health. During the last six months she has had no injections of any kind, has had no recurrence of her vesical irritability and pain, and she considers herself to be now in perfect health.

Remarks.—The details of this case have been given to encourage perseverance and patience in the treatment of these chronic and apparently hopeless conditions, and also in order to direct special attention to the undoubted benefit of repeated injections of dilute solution of nitrate of silver and free nitric acid.

Dr. Alex. Maclennan suggested making an artificial vesico-vaginal fistula in such an obstinate case.

Dr. Carstairs Douglas said that these phosphatic concretions, which were specially apt to form in the senile bladder, were often very troublesome. He examined such a concretion at the Clinical Research Laboratory last October, where the pain and distress had been so marked, and the hæmorrhage (probably from accompanying ulceration) so decided as to give rise to the suspicion of malignant disease. He regarded ammonium benzoate, given internally, as of little use; it was excreted as hippuric acid, which was a very weak acid. Much better results were to be obtained from bladder douches, such as Dr. Russell had employed, consisting of weak solution of silver nitrate acidulated with nitric acid.

IV.—CASE OF GENERAL SUBACUTE ARTHRITIS APPARENTLY ORIGINATING FROM, AND CURED BY REMOVAL OF, SEPTIC FALLOPIAN TUBES.

By Dr. T. K. Dalziel.

A. F., aged 34, admitted 10th January, 1901.

Previous History.—The patient had rheumatic fever thirteen years ago, and was at that time nine months an invalid. In October, 1899, when lifting a heavy wardrobe, felt that she had strained herself, and was subsequently ill, off and on, for six weeks. She was in Barnhill Poorhouse, where she had twice chloroform and was operated upon, but she did not know what was done.

History of present illness (8th January).—The illness began a week ago with sickness and vomiting, attended with some diarrhœa, which lasted three days. On 8th January, on trying on a pair of boots, felt a sudden pain in the lower abdominal region, followed by sickness and vomiting, and pain so severe that the patient lay moaning all night. On 10th January she was admitted to the hospital ward, when her temperature was found to be 100·8°, pulse 88, and respirations 20. The face was anxious-looking, and the eyes a little sunken, the tongue furred, but not dry. In the left iliac region great pain was complained of on pressure. Elsewhere there did not appear to be any tenderness over the abdomen. On 12th January the patient's temperature had fallen to normal, she felt better, and the tenderness was less. On bimanual examination, a tumour was discovered in the region of the left ovary. On 13th January the temperature again rose to 100·8°, though normal in the morning. On this day she first complained of a severe shooting pain in the left knee-joint, which was found to be slightly swollen. On the 14th the temperature was 100° in the morning. Pains were complained of in all the joints of the lower extremities. On the 15th pain had extended over the lower half of the abdomen, and was complained of also in the right elbow and the joints of the left hand. On this day she was seen first by me, when, on bimanual examination, one readily determined the existence of considerable thickening round both Fallopian tubes, and marked tenderness on the left side. Parts were also somewhat immobile, suggesting numerous adhesions. On the following day, 16th January, all the joints of the hands, and indeed of the whole upper and lower extremities, were extremely tender, swollen, and reddened. Especially marked were the finger-joints; the slightest movement caused excruciating agony. Although it was not considered probable that there was any pus present, it was deemed advisable, in view of the history of the case, to remove the uterine appendages, and this was accordingly done on the following morning.

They were removed, though with difficulty, owing to the numerous recent and also old adhesions which matted the whole parts in the pelvis together. Bleeding having been arrested, and the peritoneal toilet completed, the wound was completely closed, and the patient placed with the head lower than the feet. The following morning, 18th January, the temperature was 98·8°, and although there had been some sickness and vomiting during the night, it was very remarkable that the pains had already almost disappeared from the joints.

On 19th January there remained slight erythema of the small joints of the hands.

On 20th January it was found that there was some uterine discharge, which, however, disappeared in a few days with an antiseptic douche, so that on the 25th of January the patient was practically well, though kept in bed until the middle of February, when she was allowed up and about.

The *President* had lately under his care a case of gonorrhœal arthritis of the knee-joint in a woman prematurely delivered at the eighth month. Staphylococci were found in the fluid removed from the joint. The patient died of septicæmia, probably due to an autoinfection from this, and not by infection through the uterus, although the patient had a gonorrhœal discharge which gave the infant ophthalmia.

Dr. Munro Kerr thought that it was hardly correct to suggest that the arthritis was due to infection from the septic Fallopian tubes, as she had previously had acute rheumatism before any pelvic affection occurred. Probably septic absorption was sufficient to start the inflammation in joints already susceptible.

Dr. Andrew Richmond recently saw a young woman who died apparently of rheumatism. Pus was found in the affected joints, and *post-mortem* revealed septic abortion remains in the uterus.

Dr. A. R. Gunn was struck with the suggestiveness of Dr. Dalziel's paper. He had often seen gonorrhœal rheumatism in the male, and said that rheumatism associated with disease of the generative organs was often found.

V.—A SHORT NOTE OF THE PATHOLOGICAL CONDITIONS FOUND IN A CASE OF MITRAL REGURGITATION ENDING FATALLY SHORTLY AFTER DELIVERY—WITH SPECIMEN.

By Dr. Carstairs Douglas.

Cases of organic valvular disease of the heart arising before or during the course of pregnancy, and in which a fatal termination is precipitated more or less directly by the act of parturition, are, fortunately, not very common, though at the same time they are far from being rare. Having lately had the opportunity of performing the *post-mortem* examination in such a case, I take this occasion to present to the members of the Society a few remarks on this matter.

J. F., æt. 26, ii-para, was admitted to the Glasgow Maternity Hospital on 6th February, 1901, at 9 A.M., having been in labour for an hour and a half. On admission, the os was found to be three-fourths dilated, and the presentation was vertex. The patient's legs were œdematous, respiration was rapid and laborious, and numerous râles were heard over the chest. The heart's action was rapid and forcible, and a loud blowing systolic (V.S.) murmur could be heard in the mitral area. No other murmur was distinguished. The previous health of the patient had been bad for some time; she suffered from cough, breathlessness, and swelling of the feet. She had a severe attack of chorea in childhood, scarlet fever once, and recurring attacks of rheumatic fever. Her first confinement had passed off naturally.

At 11 A.M., two hours after admission, the bag broke, the os being fully dilated. The patient's dyspnœa now became greatly aggravated, and she could not lie down. Forceps were therefore applied, and easy delivery effected without chloroform. The child, a healthy male, was alive; it weighed 5½ lb. The first and second stages had together lasted four hours. The placenta came away in ten minutes. After delivery, stimulation with whisky, digitalis, and strychnine was carried out, but the breathlessness quickly increased, the heart's action became extremely rapid, and death occurred at 4 30 P.M., exactly five hours after delivery.

I performed the *post-mortem* on the morning of 8th February. The body was that of a well-nourished young woman, and showed slight general icterus. Rigor mortis was distinct, there was slight œdema of the ankles, and the pupils were equal and moderately dilated. The subcutaneous fat was plentiful, and the muscles somewhat dry. When the thorax was opened, the lungs were noticed to be bulky and slate coloured. There were fully 12 oz. of straw-coloured fluid in each pleural sac, and several ounces in the pericardium.

The heart was enlarged, but it was noticed that neither the right auricle nor ventricle appeared unduly engorged. The left auricle was dilated, and contained a firm adherent *ante-mortem* clot, as large as a bantam's egg. The left ventricle was hypertrophied, while the mitral valve was found to be distinctly incompetent, with sclerosed and shrunken cusps, but no stenosis. A long slender *ante-mortem* clot extended from this ventricle into the aorta; the aortic valve was healthy. The right ventricle was moderately dilated, and both it and the right auricle contained *ante-mortem* clot. The tricuspid valve ring was dilated. The left lung showed marked œdema, and brown induration; the right revealed the same morbid conditions, and, in addition, congestion of the lower third. The liver showed the typical appearance of chronic venous congestion. There was no ascites. Unfortunately, I had several small cuts on my hands, and was obliged at this point to refrain from further examination. The uterus, it may be noted, was empty, and perfectly normal. There was a recent corpus luteum in each ovary, and the venous plexus of the broad ligament was distinctly engorged.

Such, then, is a short note of this case, and in view of the long-standing history of cardiac disease, and the evidence of failure of compensation as shown by the hydrothorax, the œdematous and congested lungs, the nutmeg liver, and the dropsical legs, one is forced to the conclusion that nothing further could have been done for the patient, and that delivery simply gave the *coup de grâce* in an already hopeless case. Many cases of mitral regurgitation in so advanced a state as this never reach full time, abortion terminating the pregnancy in its earlier months. Cases of mitral regurgitation, unless advanced, do not usually die at parturition, for though both pregnancy and labour throw an increased strain upon the heart, no special difficulty is experienced in driving the blood forward, provided, of course, there is no aortic stenosis.

In mitral stenosis, however, the case is very different. Berry Hart speaks of it as one of the most serious conditions in obstetrics, and notes that of eight cases which he reported or investigated, a fatal ending occurred in seven. Regarding the matter, Hart reasons thus:—"During pregnancy we have imposed on the heart the task of driving a larger bulk of blood through the ordinary circulation, and an additional area formed by the enlarging uterus and placenta. For this extra task the left ventricle of the heart normally hypertrophies. Mitral stenosis is in itself a serious cardiac disease, apart from any pregnancy, inasmuch as the weak left auricle soon fails in its increased duty, the lungs become engorged, and the right side of the heart dilated. If the work of pregnancy, however, be added, then we get compressed into a few months what otherwise might have taken years; so that at the beginning of labour we get such failure of compensation that we have a dilated and weak left auricle, congested lungs, and a dilated right heart. When the labour is finished, and free hæmorrhage does not occur, we get returned to the right side of the heart the extra amount of blood before accommodated in the uterine and placental sinuses. The right heart more or less speedily becomes distended and the lungs engorged, so that we may get death with over-distension of the heart, or great dyspnœa and threatened death, or sudden pulmonary œdema. I am well aware," says Hart, "that this view of the over-distension of the heart after the third stage has been disputed, and that it has been alleged that the abdominal veins can accommodate the extra amount of blood. This objection has always seemed to me absurd, inasmuch as it could also be made to prove that in a normal body the blood should not return to the right side of the heart at all." Berry Hart, therefore, recommends that in cases of mitral stenosis one should, after the completion of the second stage, feel no alarm at even free hæmorrhage, but should be specially on the outlook if hæmorrhage is scanty. Ergot, he says, must not be used. If the circulation become embarrassed, he advocates strophanthus in full doses, and dry-cupping over the præcordia. If these do not relieve, venesection is to be performed from the arm.

I may say that all obstetricians do not countenance Hart's views. Spiegelberg, for example, says that loss of blood is dangerous. P. Müller[1] merely advocates as rapid delivery as is consistent with safety, and says that as sudden alterations of blood-pressure are dangerous in these cases, when the uterus is emptied sand-bags should be laid on the patient's belly, as recommended by Labs and Fritsch. Dakin[2] makes no reference to this special point in treatment, though he says the most dangerous period is the first week after delivery. In the *American Text-book of Obstetrics* (1890), the article on this subject is written by the late Dr. Parvin,[3] who gives in some detail the treatment according to Hart, and makes reference to the plan first suggested by Fraser Wright, of giving nitrite of amyl during delivery.

In the case I have brought before your notice to-night neither hæmorrhage *per vias naturales* nor venesection would have made any difference, and the treatment as carried out was correct in every way.

When we meet with mitral disease, whether regurgitation or obstruction, in the course of pregnancy, the case should always be watched with care, and the patient enjoined to take as much complete bodily rest as she possibly can, in order to lighten the heart's work in every way. The slightest sign of want of compensation should be treated at once, and I prefer to use strophanthus. It has a much less effect as a vasoconstrictor than digitalis (if, indeed, it has any at all), acts more promptly possibly, and has practically no diuretic effect. It is, in short, more of a pure cardiac tonic. The greatest care should be taken to avoid bronchitis, or anything else likely to embarrass the pulmonary circulation. If compensation fail markedly, it may be necessary to interrupt gestation. Both Fehling and Kaltenbach say this should be done on occasion. I have done this myself. Some six and a half years ago, when practising at Skelmorlie, I had under my care a woman with marked organic disease of the mitral valve, certainly incompetence, and probably stenosis too. She had already had several children before she came under my care, and there were then slight indications of failing compensation. She became pregnant again, went to full time, and I delivered her in September, 1894, when she nearly died. She came round, and gradually returned to her normal. I always treated her chiefly with strophanthus.

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[1] P. Müller, *Handbuch der Geburtshülfe*, 1888, Bd. ii, s. 909.

[2] W. R. Dakin, *Handbook of Midwifery*, 1897, p. 503.

[3] T. Parvin, *American Text-book of Obstetrics*, edited by Norris, 1896, p. 642.

Within a year she was again pregnant, and I determined to empty the uterus, which I did about the tenth week. She made a good recovery. I recollect I had great difficulty, contrary to what one might expect, in starting the abortion.

In 1898, after I had come to Glasgow, she again became pregnant, and once again gestation was interrupted. Compensation was, however, failing rapidly, and she died a year later of heart disease.

Only this week I was consulted by a young married woman on account of breathlessness. I found she had one of the purest and most marked presystolic murmurs I ever heard, accompanied by a very distinct thrill. She has been pregnant once, and then, fortunately for her, aborted. I felt obliged to warn her of the great risk she would run if she became enceinte, and if she does so I will follow her career with a lively and somewhat uncomfortable interest.

In conclusion, I may state, to satisfy those who have a leaning towards statistics, that among the 51,000 cases delivered in the out-door and in-door departments of the Glasgow Maternity Hospital during the thirty years between 1869 and 1898, there were 10 deaths from cardiac disease, out of a total mortality of 401. This cause was, therefore, responsible for 2·5 per cent of the deaths, 1 out of 5,100 women succumbing to it. For these figures I am indebted to the valuable paper (to be published next month) compiled by our President, Dr. Jardine,[1] to whom, also, I am indebted for permission to publish the clinical notes of this case.

The *President* referred to the value of bleeding in these cases, and agreed with Dr. Berry Hart's views.

Dr. Balfour Marshall referred to a case of a patient with mitral stenosis whom he had twice delivered. The first time she nearly died, a fatal issue being expected any hour during the first week of the puerperium. During the second pregnancy he prepared her for labour by administration of cardiac tonics and keeping her in bed more or less during the latter half of pregnancy. During labour the cervix would not dilate owing to a firm cicatrix. In manually dilating the cervix it tore into the vaginal fornix, and bled severely. He purposely allowed the patient to lose some 12 oz. of blood, and then brought down the fœtal head by forceps. The hot douche and plugging with gauze were required to arrest the hæmorrhage from the torn cervix after labour. As a result of this blood-letting, the patient had an excellent puerperium, the pulse never rising above 90, whereas in the previous pregnancy it varied from 120 to 140.

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[1] R. Jardine, "Statistics of Thirty Years' Work in the Glasgow Maternity Hospital," *Glasgow Hospital Reports*, 1901.

Dr. Carstairs Douglas, in reply, said that though cases of organic heart disease experienced almost always an increase in their distress at the end of the first stage, the really serious time, especially in the stenosis cases, was at the end of the second stage, when more blood was thrown into the general circulation with some suddenness. He would like to add that cardiac cases generally bear anæsthesia very well during labour.

REVIEWS.

Cancer of the Uterus: Its Pathology, Symptomatology, Diagnosis, and Treatment, also the Pathology of Diseases of the Endometrium. By THOMAS STEPHEN CULLEN, M.B. (Toronto). With Eleven Lithographic Plates, and over Three Hundred Coloured and Black Illustrations in the Text, by MAX BRODEL and HERMANN BECKER. New York: D. Appleton & Co. London: Henry Kimpton. 1900.

THIS large and handsome volume contains the most exhaustive discussion of uterine cancer that has yet been published, and both in form and substance maintains and enhances the high reputation which Johns Hopkins University has already achieved. We may safely say, indeed, that the student who has mastered the contents of this book, or who has even carefully studied its numerous illustrations, will find himself abreast of all that is known about cancer of the uterus.

The author recognises three different kinds of cancer in the uterus:—(1) Squamous-cell carcinoma of the cervix; (2) adeno-carcinoma of the cervix; and (3) adeno-carcinoma of the body. All of these conditions are treated in very full detail, with complete clinical histories and pathological reports. The rare endothelioma of the cervix is also illustrated by an excellently reported case.

The author also recognises the possibility of a squamous-cell carcinoma of the body, but has not met with it. Neither has has he met with an example of Deciduoma Malignum, but founding on Whitridge Williams' case, he gives a very fair review of the condition. There is also a valuable chapter on the complication of pregnancy with cancer.

Under the differential diagnosis, among other conditions endometritis and sarcoma are very ably discussed, and the peculiar adeno-myoma diffusum is fully described and illustrated.

The great value of the book, however, lies not in any novel theories regarding the structure or the life history of cancer, but in the careful analysis and illustration of the various conditions met with; in the detailed discussion of the various difficulties arising in regard to the differential diagnosis; and in the advocacy of thoroughgoing methods of examination and treatment. It begins and ends with an appeal for the early recognition of the disease by the general practitioner and family physician, who have, to a large extent, the fate of their cancer patients in their hands. The melancholy results of even radical treatment in the cases which reach the specialist are taken by Dr. Cullen as simply enforcing the rule that no menstrual irregularity, no vaginal discharge, no pelvic distress of any kind should be permitted to continue without a local examination being made. It is no doubt true, that in a few cases general conditions may give rise to local troubles, but in the immense majority of instances it is the fact that general disturbance is not the cause, but the effect, of local trouble. And in the case of cancer, when it has advanced so far as to cause general disturbance, it is generally beyond the hope of cure.

In the closing chapters the author deals shortly with the following interesting questions:—

1. *Pregnancy complicating carcinoma of the uterus.*—He rightly advises that when the disease is operable the uterus should be emptied and vaginal hysterectomy performed without delay, no matter what stage the pregnancy has reached. In inoperable cases, if the child be viable, the Porro operation gives the best results.

2. *Prognosis.*—As the author's cases do not date back

longer than six years, he is not in a position to speak authoritatively on the subject. Like other observers, however, he has found that there have been fewest recurrences after hysterectomy for adeno-carcinoma of the body, and most after hysterectomy for adeno-carcinoma of the cervix. As regards the radical treatment for squamous-cell carcinoma of the cervix, out of sixty-one cases operated on from one to six years prior to the time of publication, thirteen were still alive and without recurrence. Two of these may be said to have been definitely cured, as the operations had been performed six years before. The others dated back only one to three and a half years. In concluding this section, he states that he feels sure the proportion of successful cases will be increased before long, partly owing to the adoption of Werder's operation, and partly because in the near future the general practitioner will become more and more alive to a sense of his responsibility, and will insist on making a vaginal examination in all cases of uterine hæmorrhage.

3. *Etiology.*—The author regards heredity as playing a minor *rôle;* traumatism, on the other hand, as having a potent influence in the causation of cancer of the cervix. Cohnheim's and Ribbert's theories he dismisses as not corresponding to facts, and the parasitic theory he thinks has yet to be proved.

4. *Inoculation.*—The surgeon, when performing hysterectomy for cancer, should bear in mind the possibility of implanting cancerous tissue on raw surfaces, because it has been proved by experimental evidence that under favourable conditions cancer can be inoculated from one animal into another of the same species, and by clinical evidence that cancer of one part can be inoculated into another portion of the same human body.

For the spirit that pervades it, as well as for the excellence of the work which it records, we feel that we cannot sufficiently recommend this book to the notice of our readers.

Normal Histology. By Edward K. Dunham, Ph.B., M.D. Second Edition, With 244 Engravings. London: Rebman, Limited. 1900.

A valuable feature of this text-book, from the student's point of view, is that histology is looked at as much from the physiological as from the anatomical aspect. To teach at once the details of structure of a cell, tissue, or organ, and how difference of structure is correlated to difference of function, is the truly scientific method, and will be found the quickest and surest method of giving an intelligent knowledge of the subject. This is Professor Dunham's aim, and, on the whole, it has been very satisfactorily carried out. A short but useful introduction shows the mutual relationship of the cells of the body as developed from the ovum through the embryonic layers and fœtus. Thereafter are considered in order the cells, tissues, and organs. The treatment of the subject gives evidence of personal research, and of familiarity with the results obtained by other workers in the same field, so that, on the whole, the descriptions are full, clear, and accurate, and reinforced by copious illustrations, original or taken from the best authors. They are beautifully done. Of special interest may be mentioned a diagram by Barfurth of the hepatic lobule of a rabbit, with cells infiltrated by glycogen—the cells in close proximity to the central vein containing the largest amount of glycogen, while in the cells farther from the central vein the glycogen is less, but most abundant in the portion of the cell turned toward the centre of the lobule; a section of lung of dog killed by ether narcosis, the lung being hyperæmic and the capillaries crowded with blood corpuscles; the diagrams of the ductless glands, and more especially those of Schmid, Bozzi, Kohn, Dostoiewsky, and Lothringer; the series from Ebner showing development of the spermatozoön; and the nervous system diagrams. In some cases, however, there is a remarkable want of completeness. There is no description of ossification of bone; the description of striated muscle is inadequate; no reference is made to structure of eye or ear except as to nerve termination in retina and crista acustica. The description of the crypts of Lieberkühn is specially unsatisfactory. "The crypts of Lieberkühn have the appearance of simple tubular glands; but it is doubtful if they elaborate any peculiar secretion." What about the intestinal juice? "The crypts of Lieberkühn are lined with columnar epithelium, which also covers the surface of the mucous membrane and the villi springing from it. The cells composing this epithelium multiply in the crypts, and, as they mature, are gradually moved towards their orities (*sic*), whence they replace those that have been destroyed upon the surfaces of the villi" (p. 139). We should like to know on what authority this statement is made. On p. 255, we are informed that the olfactory organ occupies a small area at the top of the nasal vault, and extends for a short distance upon the septum and external wall. Its exposed surface is about equal to that of a five-cent piece. The comparison savours of a bad pun, and certainly is not very informative to the average British student, but perhaps it was not meant for him. About forty pages at the end are devoted to histological technique. The suggestions for the care and use of the microscope are good; and the directions for the preparation of tissues for microscopical examination excellent, although a few hints as to their special applicability to varying tissues and organs would enhance their value. There is a good index. The general finish is on a level with many of Rebman's recent medical publications, and the work will certainly find favour with all histologists who examine it.

Nervous and Mental Diseases: A Manual for Students and Practitioners. By CHARLES S. POTTS, M.D. Illustrated with Eighty-eight Engravings. London: Henry Kimpton. 1901.

THIS is a well written book, and is very suitable for students who desire to pay special attention to neurology. We have noticed very few inaccuracies, and the illustrations are of excellent quality. Even qualified practitioners might find that some of their wants are met by this volume.

Diseases of the Heart: A Clinical Text-Book for the Use of Students and Practitioners of Medicine. By EDMUND HENRY COLBECK, B.A., M.D. Cantab., M.R.C.P. Lond., D.P.H. Cantab. With Forty-three Illustrations. London: Methuen & Co. 1901.

THIS work is possessed of great merit, and is the result of careful study and careful writing. Though it is described on the title-page as a clinical text-book, it contains much more than is of purely clinical value, and, indeed, the thoroughly systematic arrangement of the subject-matter is one of the valuable features of the book. The first two chapters are devoted to Anatomy and Physiology; Chapter III to Methods of Diagnosis; Chapters IV and V to the Pulse and Cardiograph; Chapter VI to Congenital Heart Disease; Chapters VII to IX to Pericarditis and Endocarditis; Chapters X to

XXI to the various Valvular Lesions, including their treatment; Chapter XXII to Diseases of the Myocardium; Chapter XXIII to Angina Pectoris; and Chapter XXIV to Functional Diseases of the Heart.

We have noted very few points that call for criticism. Thompson should, of course, be Thomson (p. 103); and the double name, coined by Trousseau to describe the well-known disorder of respiration, looks better, we think, as Cheyne-Stokes without an apostrophe. The illustrations and letterpress are both excellent.

This text-book is as admirably suited to the needs of the student and junior practitioner, as Sir Wm. Broadbent's treatise is adapted to the requirements of the senior practitioner. Some day we may have from Dr. Colbeck's pen an equally creditable, but more ambitious volume, in which the subject of heart disease is considered, not only practically as here, but also in its historical and controversial aspects.

Modern Surgery: General and Operative. By John C. Da Costa, M.D. With 493 Illustrations. Third Edition, Revised and Enlarged. London: W. B. Saunders & Co. 1900.

It is only about two years ago since we reviewed in these pages the second edition of this work, yet the book has grown in this new edition by 200 pages of letterpress and has 100 more woodcuts besides additional page plates. We have carefully compared the two editions, and we find scarcely a page which has not undergone change, and scarcely a description which has not undergone modification and addition. The author has considerably expanded the description of gun-shot wounds, and has dealt with the effects of the small projectiles travelling at a high velocity now in use in the armies of all the great powers. He has made effective use of *x*-ray photographs to illustrate the section on fractures. Among other additions, we notice the description of Jaboulay's, Braun's, and the Wölfler-Lüke methods of performing gastro-enterostomy; the use of Laplace's forceps in resection and anastomosis of the bowel; a short description of Glenard's disease; and an account of the employment of Kelly's specula in exploration of the rectum and bladder, of Valentine's vesical irrigator in gonorrhœa, and of Sprague's hot-air apparatus in the treatment of joint diseases.

A perusal of this new edition serves to confirm the very favourable opinion of the work we expressed in the notice of the former one.

Transactions of the American Surgical Association. Vol. XVIII. Edited by De Forest Willard, M.D. Philadelphia: W. J. Dornan. 1900.

This volume is practically devoted to the surgery of the abdomen, twenty-three communications out of twenty-seven dealing with that region of the body.

The subjects taken up are largely the various conditions of the stomach, *e.g.*, ulcer, contraction, &c., amenable to surgical treatment. A paper on dislocation of the hip is of interest, also one on fracture of the patella.

The book, with its text, bibliography, and illustrations, is a valuable work of reference, and reflects the highest credit on the Association.

Notes on Physiology. By Henry Ashby, M.D. Lond., F.R.C.P. Seventh Edition. London: Longmans, Green & Co. 1900.

This book of 400 pages appeared originally in 1878, and was compiled for the use of students of the Liverpool School of Medicine when preparing for the primary examinations of the College of Surgeons. That it has now reached a seventh edition is evidence of its service in giving a *résumé* of the principal facts of physiology. It has been carefully revised, and much new matter has been added. In the main, the new paragraphs deal with medical aspects of variations from normal conditions, as in Cheyne-Stokes' respiration, pleuritic friction, jaundice, aphasia; but the description of the blood, of the central nervous system, of secretion, and the like, has been altered in the light of modern requirements. The illustrations are still almost entirely anatomical, and several of the old mistakes are repeated, as where the segmentation of the ovum is described as mesoblastic instead of meroblastic; and some statements could be altered with advantage, as that "the crusta petrosa, or cement, covers the fang of the tooth, its place being taken *below* by the enamel which covers the crown." *Above* would be better. While in no way pretending to deal completely with the science, these notes will probably be found useful by those who wish to bring to a focus their ideas with regard to the facts of physiology.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

SURGERY.

By G. H. EDINGTON, M.D.

A New Method of forming Flaps in Plastic Operations on the Cheek.—By the help of Krause's method of transplanting flaps of the whole thickness of the skin, divested of subcutaneous fat, one can, in defects of the cheek, as substitutes for both mucous membrane and skin, form double flaps, both of which are placed in position at same time.

A flap of skin of suitable shape is cut in the neighbourhood of the defect. The flap, the fat having been removed from its raw surface, is turned forwards over the gap. It is formed with a broad base, so as to secure its nutrition. On the raw surface of this flap is laid one of equal size, obtained by Krause's method, and fixed by a few fine sutures. These sutures, left long, may be used as bridles to secure the double flap being spread out during the process of the union of its two layers. After this has occurred, the flap is laid into the freshened cheek-defect, *without twisting of the pedicle;* Krause's graft becomes the skin, the other the mucous membrane.

By this method we have less scar-formation than when two flaps are raised from the skin of neck or face. Further, for the Krause's graft, the operator may use, according to his needs, skin rich or poor in hair.

The author considers the *secondary* implantation of graft (as described by Wagner) not so likely to succeed, on account of the surface not being fresh, and also of its proximity to the mouth. He has employed his method successfully to remedy a defect following cancrum oris. He found that there was not more shrinkage of the flap than what is usual in plastic operations.—(Neugebauer, *Centralblatt für Chir.*, No. 3, 1901.)

Subepidermal Cyst with Gelatinous Contents. — Andry describes this case in the *Annales de Derm. et de Syph.*, No. 1, 1900. The patient was a strong, healthy woman, aged 60 years. On the extensor aspect of the third phalanx of the left ring finger was a small swelling which Andry excised. It was the size of a pea, was very prominent, quite superficial, soft and transparent, and with a depression on its summit. It had been observed for seven or eight months, and had increased in size. The contents were a transparent, jelly-like mass, resembling those of a synovial cyst. The wall was composed of very firm, strong connective tissue, without lining of epi- or endothelium. The sweat-glands were partly normal, partly flattened out and compressed. Andry believes that the cyst has developed in the excretory duct of a sweat-gland.—(*Cetralblatt für Chir.*, No. 7, 1901.)

Carcinoma occurring in the Wall of a Dermoid Cyst.—Heinrich Wolff reports a case occurring in a locksmith, aged 21. The patient, who was otherwise healthy, had had since birth a small swelling situated over the inner canthus of the left eye. The swelling was painless, and of slow growth, but had increased somewhat more rapidly during the last two years. When admitted to the clinic, there was a hemispherical swelling, about the size of a walnut, projecting from the surrounding surface, and covering the inner fourth of the supraorbital margin and half of the root of the nose; it overhung the inner canthus, and was somewhat, but not quite freely, movable under the intact skin; it was of firm, elastic consistence, and was not lessened in size by pressure. The tumour was removed through a skin-incision. The superficial part was easily freed, as also the deeper portion which lay on the periosteum; at the sides, however, isolation of the growth could not be carried out satisfactorily, and some of the surrounding connective tissue was therefore removed along with it.

The tumour presented the macroscopical appearances of a typical dermoid cyst; from a tear in the wall, made during removal, thin, muddy, yellow fluid contents escaped.

Microscopically, extensive carcinomatous degeneration was found in one part of the wall (about one-tenth of the whole sac). This was unexpected, and the part concerned was scarcely observably thickened. The inner surface of the cyst-wall was covered with a well-formed epithelial stratum, with more or less prominent papillæ. In some places the papillæ were absent, or only just indicated. Everywhere delicate hairs were seen; sebaceous glands were sparse, and sweat-glands only occasionally found.

Close under the reti Malpighii, and in many places in direct connection with it, numerous solid cords and processes (Zapfen) of alveolar cells extended into the cutis to a moderate depth. They had an alveolar arrangement. In places they were grouped into larger masses of irregular shape; some of these masses had a cavity in their centre filled with detritus. These smaller cysts were lined with flattened cells simulating the appearances of endothelium. There was no appearance of "pearls," nor of inflammatory process. While the sebaceous glands were in places hypertrophied, this was not observed in the neighbourhood of the carcinomatous degeneration, where, indeed, the glands were only sparsely present. There were no evidences of the cancer having originated from either sweat or sebaceous glands, but in all sections the connection with the covering epithelium (Deckepithel) was shown; occasionally connection with outer cell-layer of hair-follicle was observed (corresponding to the cylindrical cells of the rete Malpighii).

Wolff publishes the case, as he believes that the occurrence of primary carcinoma in the wall of a simple closed dermoid is *unique*.—(Von Langenbeck's *Archiv*, Bd. 62, Hft. 4, s. 731).

In commenting on the above, Felix Franke, in the following number of the *Archiv* (Bd. 63, Hft. 1, s. 242), draws attention to a case of his already published (see Virchow's *Archiv*, Bd. 121, s. 448), in which carcinoma was observed in connection with two "epidermoid" cysts situated in the ball of the thumb of a man, aged 40. He considers the condition one of great rarity, while allowing that the change occurring in an *ulcerated* cyst is not unknown.

Radical Cure of Inguinal Hernia.—Le Dentu goes on the principle that it is better to approximate large surfaces rather than cut edges, as adhesion is thus more readily obtained, and is more durable. He claims for his operation that it is very simple, and that it is suitable for any size of hernia in which neither bowel nor omentum is adherent to the neck of the sac to any great extent. If the adhesions exist, a modification (*vide infra*) is necessary.

He describes his method as having five stages:—

A. (1) The *incision* extends to a distance of 7 to 8 cm. above the superficial ring, and does not need to encroach much on the scrotum. It includes the soft parts down to the external oblique, and varies according to the size of the hernia—10 to 14 cm.

(2) *Isolation of sac* as in all radical operations. The use of a dry aseptic compress facilitates the separation of the layers of muscular and connective tissues from the serosa. With the left hand one pulls on the fundus of the sac, unopened, and previously denuded to a small extent with the finger or dissecting forceps; with the right index finger enveloped in the compress, one then separates the surrounding tissues from the sac as far up as its neck. Isolation of the elements of the cord may be carried out in the same way. Where the union of the tissues is too intimate, the use of forceps and scissors

becomes necessary. The sac having been isolated as far as the superficial ring, it must be freed in the canal so as to separate completely the neck from the neighbouring parts, and also to make certain that a second neck does not exist at the deep ring. The fundus of the sac is then opened and explored. Any adhesions between the serosa and the viscera, and their extent, are to be noted. If there are no adhesions, the contents of the sac are carefully reduced into the abdomen.

(3) In the *treatment of the sac* he follows Kocher. The forceps, introduced through an opening made in the external oblique, a little above the deep ring, seizes the sac and draws it up and out through the muscle, twisting it in so doing. The lips of the little opening are fixed on the twisted neck by two or three sutures. The external portion of the sac is then cut away, save a small stump. The incision in the muscle should be only large enough to permit the sac to be drawn out.

(4) This stage is the *special feature* of Le Dentu's method :—*The reconstitution of a solid abdominal wall.*

The index-finger, with palmar surface upwards, is introduced into the unopened inguinal canal between its anterior wall and the cord, which is kept down by the back of the finger. By forcibly raising this anterior wall, the two sides (upper and lower) of the external oblique and its aponeurosis are stretched; then, with a Reverdin's curved needle in the other hand, U sutures are passed. These, when drawn tight, approximate the upper and lower parts of the anterior wall of the canal.

Formerly the U-loops were passed in the horizontal plane, *i.e.*, parallel to the abdominal parietes. This suppressed the circulation, and there was a risk of strangulation of the raised fold; now the loops are placed vertically, one limb of the U passing through the base of the fold, the other limb piercing the fold near the crest.

Catgut is used as a substitute for silk, and the sutures are placed at a distance of one-half cm. from one another. The sutures are continued down to superficial ring, and on the ring as far as possible. The remainder of the ring is closed by points of simple suture, leaving only enough room for the cord. The vertical arrangement of the loops prevents absolutely the dissociation of the bundles of the aponeurosis. No drainage is required.

(5) Insertion of skin-sutures, which includes the summit of the fold.

B. Modification.—Where intestine or epiploon is extensively adherent to the sac, the anterior wall of the inguinal canal is incised up to the deep ring. Kocher's method must be renounced here; the sac is occluded by double-ligature, or such other method as may be considered appropriate. One then unites the lips (of aponeurosis and muscle) surface to surface, as in *A.*—(*Revue de Chirurgie*, December, 1900.)

Radical Operation for Inguinal Hernia.—In the plentiful clinical material of the Mauriziano Umberto I Hospital of Milan, Galeazzi reviews the final results of radical operation in cases of non-strangulated inguinal hernia in men, with the express object of comparing the method of Bassini with that of Kocher. During the period under review—January, 1889, to June, 1900—there were performed in all 1,400 operations in 1,285 patients, with 2 deaths. Bassini's procedure was followed in 1,120, and Kocher's in 280. In some large complicated herniæ Carle's modification was adopted (three to four strong silk sutures fixing muscles, rectus, transversalis, fascia, Poupart's ligament, and skin).

In judging the results, an observation period of two years was taken as the standard. A bad result, incomplete healing, or the tendency to recur were classed as recurrences.

The observer investigated 840 cases—525 personally, the remainder from careful records of the house-surgeons. Of these, 792 gave a good result = 94·29 per cent, while 48 (5·71 per cent) showed recurrence in one of the above-mentioned ways. Details of age and occupation of patients were also noted, as were condition of abdominal wall, nature and size of rupture, and their number in the individual, and, finally, the course of the wound, and the operation method.

From these Galeazzi concludes that, in general, Bassini's method is superior to all others. With 1 to 2 per cent of failures, which statistics of this operation show, it approaches most closely the ideal of a radical result.—(*Centralblatt für Chir.*, No. 4. 1901.)

Subcutaneous Prosthesis.—By subcutaneous injections of white vaseline—a mixture of liquid and solid paraffin (melting point, 40° C.)—sterilised by heat, and injected with a Pravaz syringe, there is produced at seat of injection a firm, rounded swelling, which remains unaltered.

By this means Gersuny remedied a deficiency of both testicles (after castration); he also increased the size of the uvula in two cases in which uranoplasty had been done, and so brought about a marked improvement in speech.

By such deposits of firm ointment-masses (*salben-massen*) under the skin one is able to produce subcutaneous prosthesis, *e.g.*, raising depressed scars, improving sunken cheeks or "saddle" noses. One may also by this plan fill up large wound-cavities, substitute losses of brain substance, make movable joints after resection, and close hernial openings. The procedure can be carried out painlessly by the preliminary injection of a single drop of a 5 per cent solution of cocaine.—(*Centralblatt für Chir.*, No. 5, 1901.) [See also Abstracts in Gynæcology, p. 396.]

The Diagnostic Value of Examination of the Blood in Stomach Maladies.—For some time Hartmann and Silhol have carried on an investigation on the state of the blood in surgical cases. Up to the present the results obtained permit them to say that, with regard to gastric cancer, the examination of the blood appears to be of more value than the study of the chemistry of the stomach. In their researches they aimed at determining two points:—(1) The degree of anæmia characterised by the diminution in quantity of hæmoglobin, this, again, depending on (*a*) diminution in number of red corpuscles, or (*b*) of their contained hæmoglobin; (2) the existence of leucocytosis, and its characters.

From their observations, so far, the authors believe that one should suspect cancer of the stomach when one determines closely the combination of well-marked anæmia and leucocytosis. The anæmia results not so much from diminished number of red cells as from diminished quantity of hæmoglobin in these cells; deformities of the cells, indicating a profound change in their elasticity and texture; inequality of those of the cells which are not misshapen. Leucocytosis, to be of any symptomatic value, must be pronounced; it is specially mononuclear.

Hartmann reports two observations in which the examination of the blood was in contradiction to the results of chemical examination; the diagnosis indicated by the former was verified by operation.

Tuffier and Milian have made observations on the anatomical constitution of the blood in gastric affections, and in surgical conditions generally. Results so far have only been the application of the discoveries of Hayem and Ehrlich. Hæmo-diagnostic is of very considerable value, and the data furnished by it in typical cases are remarkable. One has to be careful, as leucocytosis may be absent in cases of tumours, even in those of the stomach; it may only appear in the cachectic stage, and it may be temporary.

For it to be of value as a sign it should be constant, persistent, and not amenable to therapeutics. The true anæmia which accompanies it is probably due to deglobulisation by toxæmia originating at seat of cancer.—(Report of Société de Chirurgie, *Rev. de Chir.*, February, 1901.)

Pathogenesis of Chronic Hydrocele.—Peyrot communicated a paper on work done by Milian and himself on the above.

The frequency of changes in the epididymis in these cases is not to be denied, but should not be exaggerated. Many hydroceles, according to them, appear to originate from a *primary change in the serosa.* It seems that, up till now, pathologists have not sufficiently applied to the pathology of the tunica vaginalis the knowledge which they have of that of the other serous membranes. One confines oneself too rigidly to the anatomical *region*, instead of considering the tunica as part of a *system.* The simple chronic hydrocele, so frequently seen in old men, and recurring after simple puncture, is a vaginalitis independent of lesions of testicles or epididymis. It is a *perivisceritis*, of the same nature as the chronic lesion of the pericardium, pleura, and peritoneum, with which it usually coexists. As in those serous membranes, one finds, in the vaginalis, milky plaques.

The etiology of hydrocele identifies itself with that of these perivisceral inflammations. It does not appear to be tuberculous; on the contrary, one frequently observes arterio-sclerosis, cardiopathies, and Bright's disease. The coexistence is due to a common cause. These simple chronic hydroceles are poor in cellular elements, showing a very small number of oval cells with eccentric nucleus, and amphophilic protoplasm; these cells are probably desquamated endothelium, and the liquid containing them is not spontaneously coaguable.—(Acad. de Méd., *Rev. de Chir.*, March, 1901.)

GYNÆCOLOGY AND OBSTETRICS.

By E. H. LAWRENCE OLIPHANT, M.D.

Paraffin Injections for Urinary Incontinence.—R. Gersuny reports a case in the *Centrbl. f. Gynæk.*, December, 1900. The patient had suffered from a vaginal urinary fistula; operation for its relief resulted in sloughing of a considerable part of the urethra with consequent dribbling of urine. Attempts to cure this by torsion of the urethra failed. The patient had a certain amount of control of the passage of urine in the recumbent posture, but none while standing, or walking, or even in sitting. The bladder was never completely emptied, as some folds of the vesical mucosa occluded the opening, and this condition also aided the patient in retaining her urine voluntarily. Gersuny accordingly treated the condition by injections of paraffin (*ungt. paraffini:* a mixture of hard and soft paraffins, with a melting point of 104° F.). This paraffin was injected first into the folds of the vesical mucosa which were visible, then into the tissues all round the opening at various points, till about 3½ c.cm. in all had been injected; a small injection of cocain was used locally for anæsthetic. The parts became firm and hard, and formed, as it were, a hypertrophied prostate. At first there was retention, requiring relief by catheterisation, then again some dribbling. A few days later 2½ c.cm. more were injected, and the patient regained complete control. Gersuny thinks the paraffin will remain *in situ* indefinitely, or if not, it may be reinjected. He has used it in other conditions, and refers to his original paper in *Zeitschr. f. Heilkunde*, No. 9, 1900.

Johannes Pfannenstiel records a case of paraffin injection in the *Centrbl. f. Gynæk.*, January, 1901. His case was in many respects similar, as the incontinence resulted from the removal of a recurrent carcinoma from the anterior vaginal wall. He employed paraffin with a melting point of 113° F. The operation was carried out as recommended by Gersuny, but was followed by alarming symptoms, ascribed by Dr. Pfannenstiel to pulmonary and, possibly, cerebral embolisms. There was no relief to the urinary incontinence, though the orifice was closed by the swelling till only a fine probe could be passed into the bladder. Dr. Pfannenstiel thinks that these injections are more dangerous than the mercurial injections into the gluteal muscles, on account of the greater danger of injecting directly into a vein.

Frisch and Kapsammer reported three cases of this operation (*Wiener kl. Wochenschr.*, February, 1901) to a meeting held at Vienna in February of this year. On this report there is a leading article in the *New York Medical Journal*, March, 1901. In the two cases reported by Frisch there were troublesome symptoms—fortunately temporary—shiverings, headache, cough, dyspnœa, with rise of temperature. One complained of rectal tenesmus, and of stabbing pain in the region of the heart. Frisch injected about 6 c.cm. twice at intervals of a week. Kapsammer injected 8 c.cm. at one sitting, and had no untoward symptoms; also Dr. Kapsammer injected all the paraffin at one point. In commenting on this, the leader agrees with Gersuny in thinking the danger is in proportion to the melting point of the fat employed; but we might point out that, according to the reports quoted above, Gersuny actually employed a fat of lower melting point than Pfannenstiel. The *New York Medical Journal* points out that this method is really American, having been introduced by Dr. Leonard Corning, and published in the *New York Medical Journal* for April, 1894, under the name of oleomyenchysis. He injected a mixture of hard paraffin and cacao butter in such a way that when the fat cooled it formed transverse bars in the muscle (the splenius), thus considerably restricting its power of contraction, and thus relieving the spasm from which the patient suffered. To avoid the risk of embolism, Dr. Corning sprayed the patient with ether during the injection. "In vaginal work an ice bag might be applied over the seat of puncture, but we fancy that limiting the spread of the injection by compression of the surrounding parts would prove more convenient." The *New York Medical Journal* thinks "the efficiency of the procedure is beyond doubt."

On Vaselin Injections for Cure of Prolapsus Uteri and Cystocele.—Dr. Halban has used Gersuny's method successfully (*Centrbl. f. Gynæk.*, February, 1901). He injected 20 to 25 c.cm. into the cystocele; placed a pessary in the vagina for twenty-four hours to get the paraffin to harden in the proper position, and found the prolapse cured. Replying to criticism, he remarks that compression of the ureters is not to be feared.

Gynæcological Massage.—Olshausen contributes an interesting article on this subject to the *Centrbl. f. Gynæk.*, January, 1901, with a bibliography of recent literature. Olshausen admits that he sometimes employs local massage, but that the great majority of patients are better without it, and he thinks the indications are very limited. He strongly objects to the attempt to rectify movable retroversion or prolapse by massage—mere "fighting with windmills." Connective tissue exudations—resulting from labour or operations, or following on tubal disease—are almost the only indications for massage in gynæcology; the exudations alone, and not the tubal swellings, are to be massaged. In fact, large swellings which are purulent, or might readily become purulent, are contraindications. In general, only old exudations are to be so treated after acute symptoms have passed off. Perimetric adhesions are strictly excluded. The exudations must be easily reached by the outer hand.

On Transverse Suprapubic Incision for Opening the Abdomen.—Dr. Kühne gives a description of Küstner's method, previously mentioned in these abstracts. The tissues, down to and including the fascia, are divided transversely. When the upper lip of the wound is drawn upwards, there is sufficient space to open enough of the linea alba longitudinally to permit many operations being carried out. The advantages claimed are that an unsightly scar is avoided, the linear scar being covered by the pubic hair; and there is less risk of hernia when the layers of suture are at right angles to each other. Dr. Kühne warns against the risk of opening into the retropubic space externally to the peritoneum.

Is the Plunge Bath the Best Means of Cleansing the Body of a Woman in Labour?—Professor Stroganoff, of St. Petersburg, answers this question in the negative (*Centrbl. f. Gynæk.*, February, 1901). He claims to have reduced the "morbidity rate" in his wards by abolishing the general bath. The dirt is washed off the dirty parts of the patient's hands, feet, anus, &c., so that she lies in more or less diluted dirt. Some of this gets into the patient's vagina, especially in multiparæ; some on to the nipples, which are the commonest channel of infection in a parturient woman. He experimented on the entrance of bath water into the vagina, and thinks he has proved its occurence in certain women. Many of the women are dirty, or have sores, so that staphylococci, streptococci, and bacillus coli must exist in large quantities in the bath water, and, in spite of all ordinary care, must be left on the sides of the bath to contaminate the next patient's bath. Professor Stroganoff proposes to replace the ordinary bath by a scrub down with soap under a continuous douche.

Following up this subject, Dr. Sticher, of Küstner's clinique in Breslau, claims priority (*Centrbl. f. Gynæk.*, March, 1901) for his researches. He inoculated a bath with bacillus prodigiosus, and found it in the vagina of the bathed women, primiparæ as well as multiparæ. Sticher thinks that, in regard to puerperal infection, the question is not—Do pathogenic microbes exist in the normal vagina? (we are not in a position to answer that at present), but rather—Can pathogenic germs find their way into the vagina, and, if so, under what conditions? If the bath is one of these conditions, we can make at least one step onwards in prevention.

The Duration of Human Pregnancy.—The double number (292-293, 1901) of *Von Bergmann's Klinischer Vorträge* is devoted to a monograph by Von Winckel on this subject. Many authors have tried to affirm that the natural duration of human pregnancy is practically a constant figure. In mares the duration is known to vary from 330 to 419 days, and in cows from 240 to 321 days. Von Winckel quotes largely from the tables of Schlichting, of Munich. Of his collected cases, more than 1 per cent lasted more than 302 days. In one of these, 334 days from last coitus, and 344 from last period, are the figures given. Von Winckel's own analysis comprises some 30,000 cases in the maternities of Dresden and Munich. His method was to compare the alleged duration of pregnancy in those cases where the child weighed 4,000 grams or more, and measured 52 cm. or more in length, with that in the case of smaller and lighter children. Of these, 14 per cent went more than 302 days before delivery, although, among his own cases, Von Winckel had none of the very huge children such as have been recorded in the literature of the subject. The whole article is most interesting, and, from the medico-legal aspect, most important.

Books, Pamphlets, &c., Received.

The Year-book of Medicine and Surgery, being a Yearly Digest of Scientific Progress, edited by George M. Gould, M.D. Vol. I: Medicine. Vol. II: Surgery. London: W. B. Saunders & Co. 1901. (26s. net.)

Electro-Hæmostasis in Operative Surgery, by Alexander J. C. Skene, M.D., LL.D. London: Henry Kimpton. 1901. (10s. 6d. net.)

Burdett's Official Nursing Directory, 1901. Fourth Year. London: The Scientific Press, Limited.

Nervous and Mental Diseases, a Manual for Students and Practitioners, by Charles S. Potts, M.D. Illustrated with Eighty-Eight Engravings. London: Henry Kimpton. 1901. (7s. 6d. net.)

Histology and Pathology, a Manual for Students and Practitioners, by John Benjamin Nichols, M.D., and Frank Palmer Vale, M.D. Illustrated with 213 Engravings. London: Henry Kimpton. 1901. (7s. 6d. net.)

Eye, Ear, Nose, and Throat, a Manual for Students and Practitioners, by William Lincoln Ballenger, M.D., and A. G. Wippern, M.D. Illustrated with 150 Engravings and 6 Coloured Plates. London: Henry Kimpton. 1901. (10s. net.)

Obstetrics, a Manual for Students and Practitioners, by David James Evans, M.D. Illustrated with 149 Engravings. London: Henry Kimpton. 1901. (7s. 6d. net.)

A Manual of Materia Medica and Pharmacology, by David M. R. Culbreth, Ph.G., M.D. Second Edition, enlarged and thoroughly revised. With 464 Illustrations. London: Rebman, Limited. 1900. (20s. net.)

Appendicitis: Its Pathology and Surgery, by Charles Barrett Lockwood, F.R.C.S. London: Macmillan & Co., Limited. 1901. (10s. net.)

Diseases of the Heart, a Clinical Text-book for the use of Students and Practitioners of Medicine, by Edmund Henry Colbeck, B.A., M.D., M.R.C.P. Lond., D.Ph. Cantab. With Forty-three Illustrations. London: Methuen & Co. 1901. (12s.)

A Handbook of Materia Medica, Pharmacy, and Therapeutics, by Sam'l O'L. Potter, A.M., M.D., M.R.C.P. Lond. Eighth Edition, revised and enlarged. London: Rebman, Limited. 1901. (21s.)

Transactions of the American Dermatological Association (May, 1900), edited by Frank Hugh Montgomery, M.D., Secretary. Chicago: F. P. Pettibone & Co. 1901.

Pulmonary Consumption, Pneumonia, and allied Diseases of the Lungs, by Thomas J. Mays, A.M., M.D. Illustrated. New York: E. B. Treat & Co. 1901. (3 dols.)

Modern Natural Theology, with the Testimony of Christian Evidences, by Frederick James Gant, F.R.C.S. London: Elliot Stock. 1901. (2s. 6d. net.)

Pernicious Anæmia: Its Pathology, Septic Origin, Symptoms, Diagnosis, and Treatment, by William Hunter, M.D. Edin. With Plates, Charts, and Illustrations. London: Charles Griffin & Co., Limited. 1901. (24s. net.)

Surgical Experiences in South Africa, 1899-1900, by George Henry Makins, F.R.C.S. London: Smith, Elder & Co. 1901. (16s.)

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FOUR WEEKS ENDING 20TH APRIL, 1901.

	WEEK ENDING			
	Mar. 30.	April 6.	April 13.	April 20.
Mean temperature,	40·3°	41·1°	44·4°	46·5°
Mean range of temperature between day and night,	14·6°	16·3°	15·5°	18·9°
Number of days on which rain fell,	1	5	7	6
Amount of rainfall, ins.	0·03	1·07	1·14	0·57
Deaths registered,	331	369	350	320
Death-rates,	22·8	25·5	24·1	22·1
Zymotic death-rates,	3·1	3·7	3·2	4·6
Pulmonary death-rates,	6·8	7·2	7·0	5·7
DEATHS—				
Under 1 year,	59	74	74	61
60 years and upwards,	63	79	66	64
DEATHS FROM—				
Small-pox,	10	5	6	10
Measles,	5	2	3	2
Scarlet fever,	3	1	1	2
Diphtheria,	2	5	4	1
Whooping-cough,	14	31	27	37
Fever,	2	4	...	2
Diarrhœa,	8	5	6	12
Croup and laryngitis,	2	...	1	1
Bronchitis, pneumonia, and pleurisy,	74	82	81	49
CASES REPORTED—				
Small-pox,	42	40	49	22
Diphtheria and membranous croup,	8	12	13	10
Erysipelas,	12	21	26	11
Scarlet fever,	75	39	79	62
Typhus fever,	...	2	2	1
Enteric fever,	19	4	16	8
Continued fever,	...	...	...	...
Puerperal fever,	1	1	2	1
Measles,*	33	40	45	72

* Measles is not notifiable.

SANITARY DEPARTMENT,
GLASGOW, *24th April, 1901.*

THE
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ORIGINAL ARTICLES.

THE NINTH JUBILEE OF THE UNIVERSITY OF GLASGOW.

By WM. GIBB DUN, M.D.

The Universities of Scotland have recently emerged from the prolonged treatment of a Royal Commission, the effects of which were greatly feared by many competent authorities, and regarding which many gloomy prognostications were uttered. These have been falsified, and one may well apply to the universities of to-day the words of a former distinguished Lord Rector—"the more I contemplate our noble institutions, the more convinced I am that they are sound at heart, that they have nothing of age but its dignity, and that their strength is still the strength of youth." So said Lord Macaulay in 1849, and we are certain that were he now alive he would use the same language of undaunted hope.

From time to time individuals and institutions require to take stock of their affairs, and it is well when a crisis arises in the history of an institution that it is boldly faced, and wisely handled. The University of Glasgow at the present time is, to some extent, passing through a crisis. The system of instruction in science classes by lectures only has become obsolete. What is wanted is that students should see and handle things for themselves, and to effect this the teacher requires well equipped museums and laboratories. It is much to the credit of Principal Story that he early recognised this, and that, along with the professors concerned, he at once faced the situation, and took the public into his confidence.

We are already experiencing the good results of this policy, as may be seen in the remodelling of the anatomical department, and in the erection of various special buildings, amply and thoroughly equipped, in a manner which would never have been dreamt of only a few years ago. Professor Allen Thomson, no doubt, was proud of his new anatomy rooms, but were he to see those of to-day, he would willingly admit what an improvement has been effected by his successor. Ample cloak room and lavatory accomodation have been provided, and a large, new, well-lighted and well-ventilated dissecting room has been built—one of the finest of its kind in Europe. In addition, a museum is being erected in which the student may study, and compare his own work with the valuable anatomical specimens, many of them made by such a master as William Hunter, which formerly there was no opportunity of seeing, except in the lecture room.

Large buildings are in process of construction for the Professors of Engineering and Botany, and we must not forget to mention the admirable Institute of Pathology—the crown to the life-work of the lamented Professor Joseph Coats.

A good beginning has, therefore, been made, and ere long we may hope to see the University thoroughly equipped, and fit to turn out those first-rate men so much desiderated by our Lord Rector.

Principal Rainy—an honoured name in the annals of the University—said, some time ago, that he knew no better way for a man to perpetuate his memory than to build a church. Perhaps some of the Glasgow millionaires, of whom we sometimes hear, may object to church building; if so, they may not object to rear a Temple of Science, and we are sure the University Court will be pleased to gratify their ambition.

There is one department of the University, which has been sadly neglected, around which the whole work of the institution ought to cluster. We mean the Library. Oh! that we had in Glasgow an Andrew Carnegie. His name would live amongst not the least of the generous benefactors of the University. We have often thought that the librarian ought to have the title and status of professor. In America this is sometimes the case; strange that it has never occurred to propose it here.

During the last few years many changes have taken place in the medical staff of the University; to two of the latest it is fitting that at this time we should refer.

Sir Wm. Gairdner recently vacated the Chair of Medicine. He will long live in the memory of the many students he has trained. We shall remember him as a learned professor, and a man of great culture; but, better still, we shall remember him as a man of transparent honesty. We were more impressed with this in his practical work as a hospital physician, even than in his formal lectures from the professorial chair. The careful, painstaking manner in which he investigated his cases, never slurring over or concealing anything, but obviously striving to get at the real facts of every case, must abide with his students as a useful influence throughout life.

Professor George Buchanan has also retired. We shall not readily forget him. He was a good and resourceful surgeon, who often conveyed his instruction in such an unconventional and striking manner that it stuck fast in the memory of his students. Under his somewhat brusque manner he concealed a warm heart.

We wish both of those old friends many days of pleasant leisure and happy recollections.

It will be noticed that we have confined our attention mainly to the medical faculty of the University. This is to be expected, as it is with its work we are most familiar. We rejoice, however, to think that a spirit of enterprise is animating every faculty, and that there is an evident desire on the part of the professors to foster a feeling of *camaraderie* between the students and themselves, and to make them feel that they are co-workers and friends.

In the introduction of women to the privileges of students and graduates, the University of Glasgow has kept pace with the times. Queen Margaret College is now an integral part of the University, and women can have there a complete course of studies qualifying for degrees in arts and medicine. The medical classes have been largely attended, and there is already quite a considerable number of women graduates, some of whom are filling good and useful positions in the profession.

With the removal of the "College" from High Street to the far west, we never hear of the town and gown rows, which at times almost assumed the proportions of a riot, and the red-cloaked youths are never now saluted by the street gamins with the cry, "Collie dougs, hang down yer lugs and let the gentry by." Other times, other manners!

This is a memorable year in the history of the University of Glasgow. She has now attained the fine old age of four hundred and fifty years, and with the keen foresight she is displaying, and the strenuous exertions she is making, we are reminded of the words applied to the patriarch at the great age of one hundred and twenty years, "his eye was not dim, nor his natural force abated." So it is with our University. To the list of distinguished men of the past we can now add those of Kelvin and Lister, men whose reputation is world wide, and the benefits of whose work, initiated here, is incalculable.

To celebrate the ninth jubilee of the University there will be assembled at Gilmorehill this month deputies from almost every university—of Europe, of America, and of our colonies—as well as representatives of the great learned and scientific societies. As representing the medical fraternity of Glasgow and the West of Scotland, this *Journal* desires to offer its hearty congratulations, and to wish to the University a continued career of prosperity and usefulness.

DAILY CEREBRAL VOMITING OF SIX MONTHS' DURATION DUE TO A COLUMNAR-CELLED ADENOMA OF THE CEREBELLUM INVOLVING THE FOURTH VENTRICLE.[1]

BY JOHN LINDSAY STEVEN, M.D.,

Physician, Glasgow Royal Infirmary; Honorary Librarian, Faculty of Physicians and Surgeons, Glasgow.

THE specimen which I present for your examination to-night is an irregular mass involving both lobes of the cerebellum, and extending to the fourth ventricle. It is thus described by Dr. Charles Workman, who performed the *post-mortem* examination:—"The tumour involves the fourth ventricle, and occupies both lobes of the cerebellum, but mostly the left, and comes into view in front to the left of the medulla oblongata. After careful examination, I am unable to say from what part the tumour has originated. Sections of a portion of the growth have been cut by the freezing method, and these show that the tumour has the structure, for the most part, of a columnar-celled adenoma, probably arising from the ependyma of the ventricle. The portion of the tumour which comes to the surface to the left of the medulla has undergone some necrosis, apparently caseous." Such is Dr. Workman's account of the pathology of the tumour, and with the single remark that, in my experience, and I believe also in his, primary columnar-celled adenoma of the cerebellum is a rare form of neoplasm, I leave the specimen for your inspection. The other organs of the body, the stomach and intestines being specially examined, were normal.

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[1] Specimen shown and paper read at a meeting of the Glasgow Medico-Chirurgical Society held on 7th December, 1900. Case made subject of a clinical lecture in the Glasgow Royal Infirmary, 22nd October, 1900.

The clinical history of the case is as follows:—

Peter A., aged 9 years, a schoolboy, was admitted to Ward 12 of the Glasgow Royal Infirmary on 24th September, 1900, having been transferred from surgical Ward 18 as a probable case of meningitis. In the month of May, 1900, he fell and cut his head over the right parietal region, the wound taking five or six weeks to heal entirely. Shortly after the accident, and after the wound had commenced to heal, he began to suffer from frequent vomiting. Notwithstanding this, he returned to school, but had to leave in a few days on account of the frequent vomiting. The vomiting did not seem to be influenced by the taking of food, although it is stated that he was often rather sick before it came on. The irritability of the stomach persisted without intermission all through the summer, and about six weeks before his admission to hospital emaciation began, and has progressed very markedly since. His bowels have been costive all along, but his appetite has remained good.

Pain in the back of the neck was first of all complained of about four weeks before admission, and headache also, though the latter was only occasional. About this time his medical attendant made a diagnosis of meningitis.

His personal and his family histories are alike unimportant, and throw no light upon the case.

The following were the chief clinical phenomena observed in the ward:—His decubitus was lateral, and he could lie upon either side. There was mild delirium at times, and his speech was occasionally of a scanning or interrupted character. The tache cerebrale was always easily elicited. There was a trifling scar on the right parietal region, but no evidence of injury to the bone. Pain was experienced on palpation over the upper cervical vertebræ, and he sometimes cried out on account of pain in this situation, but the cry could not be described as characteristically hydrocephalic. No definite retraction of the head was noticed, but it was thought that the erector spinæ muscles of the neck were unduly prominent and tense. The pupils were somewhat dilated, but reacted to light and in accommodation. There was no ptosis, no strabismus, and no complaint of dimness of vision. Marked double optic neuritis was observed to be present throughout residence in the ward. The pulse was regular throughout, and varied in frequency between 80 and 100. The respirations averaged about 20, and were often deep and sighing in character, and occasionally of the Cheyne-Stokes type. The reflexes, as a rule, were normal, but owing to his great weakness it was impossible to test his walking. An area of hyperæsthesia was detected over the right front of the chest. The abdomen was distinctly retracted, and the temperature was subnormal throughout. The organs of the chest and abdomen were found to be healthy.

Undoubtedly, however, the most striking clinical phenomenon of the case was the persistent, long-continued, severe vomiting, which gradually wore the boy to a shadow. The vomiting occurred several times in the day, and occurred every day during residence, resisting all the usual treatment. As observed in the ward, the vomiting was not preceded by any nausea or sickness, and was not apparently related to the taking of food. On one occasion, while I was examining him, I asked him if he was feeling sick or in any way unwell. At the time he was lying on his back, and not apparently in any pain or discomfort. He replied that he was not. Within a minute or two, and without warning of any kind, he vomited with considerable force a large quantity of brownish-coloured watery fluid. It was also noted that any change of his position in bed was liable to induce emesis. The vomiting was never associated with diarrhœa, and it had all the most striking features of direct cerebral vomiting.

During the last few weeks of his life he passed his urine and fæces in bed, but his appetite remained fairly good till a very late period in the case. Indeed, we could not help feeling that the actual cause of death was starvation from the constant irritability of the stomach. The vomiting throughout was undoubtedly cerebral, and was never associated with other gastro-enteric symptoms.

In the course of a clinical lecture on the case, delivered to my class on 22nd October, 1900, about three weeks before the boy's death, I stated that there were, as it appeared to me, two views that might be taken as to diagnosis—(1) that he was suffering from cerebral meningitis, and (2) that he was the subject of a cerebral tumour. After discussing the general symptomatology of these two conditions, with special reference to the phenomena observed in the case, I said that, on the whole, the symptoms pointed rather to the presence of a cerebral tumour than to meningitis. It seemed to me that the persistent vomiting, the long-continued course of the case, the absence of fever, and the double optic neuritis were more in favour of tumour than meningitis.

As regards the situation of the tumour, there were no localising symptoms to guide us, but, on the whole, it was thought to be situated below the tentorium, and in the cerebellum. As regards the nature of the tumour, I thought it not unlikely to be tubercular, chiefly on account of the patient's age, although the possibility of it being a glioma was also kept in view. As the *post-mortem* examination has demonstrated, the histological appearances are not those of either of these conditions, the tumour being, as has already been stated, a cylinder-celled adenoma, certainly an unusual form of cerebral tumour in my experience. I have presented the case to the Society chiefly on account of the long-continued and very characteristic cerebral vomiting to which the tumour gave rise.

CASE OF ANUS VULVALIS.[1]

By JOHN EDGAR, M.A., B.Sc., M.B., C.M., F.F.P.S.G.,

Professor of Midwifery and Diseases of Women, Anderson's College Medical School; Surgeon, Glasgow Samaritan Hospital for Women.

ANUS vulvalis is a condition in which the anus is situated at the vaginal orifice immediately behind the hymen. It is extremely rare. Winckel, in an examination of 12,000 individuals, has never seen a single case. Bednar has seen 1 in 7,154, and Collins, of Dublin, 1 in 16,654. It is for this reason chiefly that I have considered it right to report my case.

Mrs. G., æt. 45, was sent to me as a case of complete rupture of the perineum, with a note that the case was remarkable in that patient had never borne any children, and that there was no history of an accident. She had been married for twenty years, but, with the possible exception of a miscarriage at the third month fourteen years ago, she had never been pregnant. About six months after the miscarriage Dr. Phillips, of Greenock, dilated the cervix, without chloroform, on account of severe dysmenorrhœa, which had troubled her since the onset of menstruation. The operation was entirely successful. In other respects menstruation had always been normal till the end of last year, when there was a period of three months' amenorrhœa. In all probability, patient has reached the menopause.

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[1] **Read at a meeting of the Glasgow Obstetrical and Gynæcological Society held on 13th March, 1901.**

Her chief complaints when I saw her first were frequency of micturition, bearing-down sensation, and, when the motions happened to be loose, incontinence of fæces. The last symptom dated back only two years. A few years before marriage the womb began to come down as the result of a strain. At first pessaries had kept it in position, but for the last two years they could not be retained.

Four weeks ago (12th February) patient was admitted into the St. Elizabeth Nursing Home. On examination I found the vaginal portion elongated, and the uterus retroverted and prolapsed to the second degree. The hymen was relaxed, but was intact, with the exception of a few tears which did not reach down to the base. The vaginal orifice was relaxed. Immediately behind the hymen was situated the anus, the sphincter of which was somewhat relaxed. Behind this stretched a thin transverse band which resembled the fourchette, so that the anus appeared to lie in the fossa navicularis. In other respects, both the internal and the external organs of generation were well developed and healthy.

On 14th February, assisted by Dr. M'Bryde, I curetted the uterus, amputated the cervix by the Simon-Marckwald method, using strong catgut sutures, and then performed a modified Lawson Tait's operation on the recto-vaginal septum. After dissecting deeply into the septum, I carried the ends of the transverse incision well back on each side of the anus instead of bringing them forwards. Silkworm-gut sutures were used to bring the sides of the wound together. This had the effect of carrying the anus farther back, and of creating a good sphincter for it. Finally, I opened the abdomen, and stitched the fundus uteri to the anterior abdominal wall with two strong catgut sutures.

Patient has made an excellent recovery. The wounds healed by first intention, and there is now no trouble with micturition and defæcation. The fundus uteri has united with the abdominal wall, so that there will be, I trust, no further necessity for the use of pessaries.

To comprehend the etiology of anus vulvalis, it is necessary to understand how the perineum comes to be formed. In very early embryos the Wolffian ducts and the gut open into the lower part of the allantois. By a process of thickening of the septum between the Wolffian ducts and the gut, the lower portion of the allantois gets separated into the urogenital canal in front, into which the Wolffian ducts open, and the anus behind. Both the urogenital canal and the anus open into the cloaca. This is a depression of the ectoderm at the part corresponding in the adult to the space between the clitoris and the posterior anal wall. It gradually disappears in the course of the third month by closing in from the sides. Just before this time the Müllerian ducts develop downwards, and open along with the Wolffian ducts into the urogenital canal. Then, as the Wolffian ducts in the female disappear, the Müllerian ducts develop further, and form at this part the vagina. When the anterior portion of the cloaca closes, the urethral and vaginal openings remain patent.

Later, by a process of epithelial proliferation, the two sides of the posterior portion of the cloaca—*i.e.*, the portion between the vagina and the anus—unite to form the perineum.

From what I have said, it will be understood that in the case which I have described the posterior part of the cloaca has not closed in; in other words, the perineum has failed to develop. It will be understood, also, that the name, *atresia ani vaginalis* or *vulvalis*, which was formerly given to the condition, and which owed its origin to the impression then held that the anal opening in such cases is an adventitious one, was a misnomer. The German term, *anus vestibularis*, so-called because in Germany the whole vaginal orifice is called the vestibule, is inapplicable in this country, because we restrict the name of vestibule to the small triangular area between the nymphæ and the meatus urethræ.

As regards treatment, Hochenegg has advised a deep incision into the part behind the anus, splitting of the rectum and suture of it into the wound. Buckmaster says that a secondary operation—splitting of the fibres of the levator ani—should be performed at a later period in order to obtain a good sphincter. In my case I thought that Lawson Tait's operation, carried out in the manner which I have described, would meet the neccessities of the case, and the result has justified my conjecture.

FŒTAL ABNORMALITY OBSTRUCTING LABOUR.[1]

By GEO. BALFOUR MARSHALL, M.D.,

AND

JOHN LINDSAY, M.B., C.M.

Dilatation and hypertrophy of the bladder—Imperforate rectum—Undescended testicles—Absence of left kidney and ureter.

The body is that of a male infant apparently at the full term of gestation. The head, upper limbs, and upper half of the thorax are normal; but the lower ribs are thrust outwards. The abdominal walls are relaxed and thrown into folds, as if they had formerly been greatly distended. The left leg is separated at the knee-joint. The right thigh is flexed upon the abdomen, and impresses the surface. The right leg is flexed and abducted, so that the fibular side is against the outer aspect of the thigh, the lower epiphysis of the femur having been separated from the diaphysis.

On opening the body, the middle of the abdomen is seen to be occupied by a large bilobate tumour, extending from the pubis upwards, a distance of 7 inches. Its lower end completely fills the pelvis, and is adherent to its sides. Its anterior surface is also firmly adherent to the adjacent abdominal wall from the pubis to the umbilicus, the upper lobe, extending 2 inches higher, being free, and covered by smooth peritoneum.

The bowel and liver have been pushed upwards, so that the latter is completely covered by the ribs. There is a Meckel's diverticulum on the ileum, in length equal to twice the diameter of the bowel, and situated 7 inches from the ileocolic valve. The meso-cæcum is abnormally long; and the sigmoid flexure, displaced upwards and somewhat distended, crosses towards the right, and ends blindly where it is attached to the middle point of the posterior surface of the tumour.

The tumour, on being cut into, is found to be the enormously distended bladder, the walls of which are very much hypertrophied, varying from one-eighth of an inch to three-eighths of an inch in thickness. The inner surface is in some places strongly fasciculated, and microscopic sections show great increase in the muscular tissue, and a much slighter increase in the thickness of the serous coat. On the posterior wall, about an inch above the lower end of the cavity, there is a dimple, into the centre of which a hog's bristle can be passed. This is the inner end of the urethra, which is found to be pervious to a bristle as far as the front of the scrotum. Sections through the root of the penis, and others taken from within the pelvis, an inch from the anterior layer of the triangular ligament, show the urethra to be normally formed, and not at all dilated. The free end of the penis has been much distorted and hardened in the preservation of the specimen in formalin, and it is not found possible to pass a probe through the meatus, but sections across the glans reveal a pervious canal. No occlusion of the urethra has been found at any point, and it can be shown to be patent and undilated through the greater part of its length from the bladder outwards.

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[1] Pathological report to the Glasgow Obstetrical and Gynæcological Society. For an account of the labour, see a note by Dr. Andrew Richmond (Paisley) in the *Glasgow Medical Journal*, January, 1901, p. 57.

The bladder being broadly adherent to the anterior abdominal wall as high up as the umbilicus, the umbilical vessels pass directly from its surface into the cord, and there is no urachus. The lumen of the urachus has doubtless been opened up to form part of the general cavity of the cyst (distended bladder).

With a view to determine, if possible, the real nature of the lower portion of the cyst—whether it were part of the true cavity of the bladder or the dilated upper end of the urethra—and also with the purpose of obtaining evidence of the presence or absence of the prostate, and its position if present, sections were taken from half a dozen places and examined with the microscope. It was thought that traces of the gland might be found in the angle between the bladder and rectum, since this is the situation in which the genital cord is formed; but sections from this neighbourhood show only the longitudinal muscular fibres of the bladder collected into a conspicuous rounded bundle. Sections from different places between this point and the internal orifice of the urethra exhibit only the same structure as those taken from higher up, namely, unstriped muscle fibres mixed with dense connective tissue and, on the inner surface, stratified epithelium. Where the cyst is very thin the muscular tissue is absent, as is to be expected where the fasciculation of the bladder is so pronounced.

A study of the relations of the levator ani to the cyst gives no help in the enquiry. Thin strands of striated muscle are found to extend for an inch or two above the level of the os pubis over the outer surface of the lower part of the cyst;

but their upper limit cannot be taken as the line of insertion of the levator ani into the neck of the bladder, since these strands may have belonged to other pelvic muscles, glued to the cyst by the inflammatory exudate, and torn from their proper place when the adhesions were broken through.

The urethra, from the anterior layer of the triangular ligament to its internal orifice in the bladder, measures an inch and a quarter, about the usual length for the membranous and prostatic portions in the child, and in all probability this part of the canal represents these portions of the urethra of the normal subject. In favour of this view is the fact that the mucous membrane is thrown into the deep longitudinal folds characteristic of the prostatic urethra. But there is not a trace of the glandular elements of the prostate, nor of the ejaculatory ducts, and the microscopic structure is otherwise abnormal. Nearly the whole area of the section is occupied by bundles of *striated* muscle fibres coursing in different directions through it, only a narrow zone around the urethra being free from them, and formed by smooth muscular tissue. None of the authorities usually appealed to—such as Quain, Gray, or Cleland—mention the occurrence of striated muscle in the prostate; but Klein, writing the article on the "External Generative Organs" in Stricker's *Text-book of Human and Comparative Histology*,[1] has the following passage:—"Transversely striated muscular tissue also occurs in the prostate in the form of continuous bands, internal to the striated fibres of the sphincter urethræ. Henle described similar bands existing in the uppermost of those portions of the prostate lying in front of the urethra; they extend, however, as Kölliker has shown, farther downwards in the cortical portion of this segment. Fasciculi of transversely striated muscular fibres are found also in the cortical layer of the segment situated behind the urethra, especially in the upper part, where, in company with trabeculæ of smooth muscular tissue, they penetrate into and divide the gland substance."

In sections through the prostate of a new-born infant which we prepared for comparison, there could be seen a band of striated muscle running across the anterior face of the gland, the fibres at the ends of the band passing into the body of the prostate itself; but in no other part of the section was there any trace of this kind of tissue. The observation of Henle is thus corroborated, and if the rest of the statement quoted is equally reliable, it must be accepted that striated muscle-fibres at least occasionally surround the first part of the urethra.

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[1] New Sydenham Society's edition, vol. ii, p. 297.

This being admitted, the presence of such tissue would be another indication that the innermost portion of the canal in Dr. Richmond's specimen was the prostatic urethra; while the absence of the glandular elements may be considered to be due to a difference in origin of these elements, and the failure in development of the part which produces them.

The question naturally suggests itself whether the presence of so much striated muscular tissue around the outlet of the bladder had any causal connection with the great dilatation and hypertrophy of the organ. By way of answer to this question, we would point out that the fluid contents of the bladder had obviously been retained under great pressure, pressure to which the single ureter had yielded, yet the pervious urethra was not at all dilated. Why the urine did not pass into the urethra and escape, or if there really was an obstruction near the distal end why the pervious portion was not distended, is quite incomprehensible, except on the supposition that the sphincter fibres near the inner orifice so acted as to keep the outlet closed.

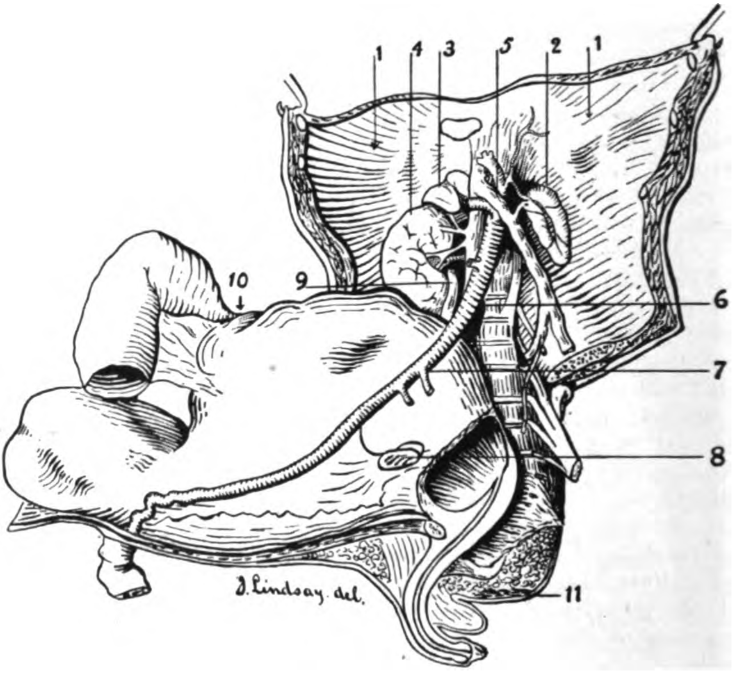
The condition was not one of rapid distension. The great amount of dense connective tissue in the bladder walls, the hypertrophy of the muscular tissue, and its collection into bundles that gave the interior a reticulated appearance, all point to a long-continued struggle on the part of the organ to empty itself. The facts of the case, indeed, so far as they concern the bladder, have a close analogy with those of congenital hypertrophy of the pylorus.

The perineum of the subject, in its muscles, nerves, and blood-vessels, is found to be normal. The sphincter ani is well developed, but the anus is imperforate. Within the bladder, at the point where the rectum ends upon its surface, there is a depression, but no perforation.

The testicles are found within the abdomen, each suspended by a fold of peritoneum which runs between the bladder and the lateral walls of the abdomen. Both are normal as to their bodies and their epididymes, but no trace of the vesiculæ seminales could be discovered.

The right suprarenal body and the kidney of this side are normal; the ureter is much dilated. The left suprarenal is well formed, but flattened against the body wall. There is not a trace of the left kidney or ureter. Their absence would appear to be due to original defect, and not to atrophy. Had the kidney disappeared by atrophy, it is probable that the renal artery would have been represented at least by its inferior suprarenal branch, but there was no such vessel.

Of the few minor variations found in dissecting the rest of the body, the only one that need be mentioned concerns the course of the left common iliac vein. This vessel joined the vena cava by crossing the front of the aorta above the origin of the superior mesenteric artery, as shown in the illustration. The brain was too soft for examination when the specimen came into our hands.



Dissection of the Abdomen, the left half of the Pelvis being removed and the Bladder turned to the right.

1—1. Inferior surface of diaphragm.
2. Left suprarenal body.
3. Right suprarenal body.
4. Right kidney.
5. Left common iliac vein crossing the aorta between the origins of the cœliac axis and the superior mesenteric artery.
6. Bifurcation of the aorta.
7. External iliac artery.
8. Left testicle and epididymis.
9. Dilated ureter.
10. Blind end of the bowel attached to the bladder.
11. Sphincter ani.

SOME POINTS IN THE FORMATION OF THE CONNECTIVE TISSUE OF THE LIVER, WITH SPECIAL REFERENCE TO HEPATIC CIRRHOSIS.

BY JOHN M'INTYRE.

(*Concluded from* p. 348.)

SEQUELÆ OF THE NEW-FORMATION OF CONNECTIVE TISSUE.

Whatever view be taken of the cirrhotic process—whether the new growth is secondary to a degeneration of parenchyma, or the parenchyma degeneration secondary to a crushing action of the contracting tissue (a point to be discussed later), no one who examines the surface of a "hobnail" liver can deny that cirrhotic contraction is in part responsible for parenchyma degeneration. For, even if it be true, as Hamilton[1] alleges, that "the projections are not to be looked on as such," and that "they represent portions of the liver which have been less drawn inwards than their surroundings," it is only partly true. The tissue which contracts can exert its pressure laterally as well as lengthwise, and in part the "hobnails" are due not only to the "drawing-in" bands, but to bands contracting at right angles to these, and crushing the islands into dome-shaped projections. In the depths of the mass of the affected organ we must suppose the cicatricial contraction as acting injuriously to a high degree on the liver cells.

But the cicatricial process, when analysed into its elements, may be seen to be not always destructive of cell-life, but giving release to potentialities of cells, and even to cells of the parenchyma. For there is sometimes seen a proliferation of of liver cells in cases where there is no indication of a cirrhosis being secondary to a primary lesion of the parenchyma, and, if this cirrhosis is primary, then the factor that acted on the rude connective tissue as a stimulus would probably act on the delicate parenchyma in a far different fashion—that is, as an irritant. Not proliferation, but degeneration of liver cells would follow. Such a proliferation (which Dreschfeld[2] cites as preceding the formation of bile-ducts from liver cells, and which Hamilton[1] describes as leading up to the transformation of parenchyma into fibrous tissue), whatever end it serve finally, is probably in inception caused by alterations of tissue-tension set up by the contraction of the new-formed connective tissue. These alterations, sequent on contraction, are mechanical mainly; but as Ribbert[1] insists, the mechanical relations are not the only ones connoted by the term "tissue-tension," but are abstractions if regarded as apart from vital processes. The cirrhotic lesion proceeds probably by exacerbations, judging from histological appearances. Fresh (and therefore deeply-staining) round cells though apparently, under the low power, covering large areas with a fairly regular distribution, on close examination with the high power show irregular disposition in detail. There is no mathematical precision evident in their times of entrance into the pathological field—of necessity (when viewed in its elements, and as regards minute divisions of space and time) it follows by fits and starts, although on a wider view, the older cells are grouped in one place, the younger cells in another. As a consequence, the pressure on cells of bile-duct, blood-vessel, or liver-tissue may be increased, or it may be decreased.

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[1] Hamilton, *Text-Book of Pathology*, 1894, vol. ii, part 1.

[2] Dreschfeld, *Journal of Anatomy and Physiology*, vol. xv, 1881.

Viewed *en masse*, of course, the pressure on the parenchyma (if this has not degenerated previous to contraction beginning) is increased enormously; but here and there a decrease of pressure allows of a liver-cell or two proliferating. Viewed *en masse*, does the same conception hold good for the other structures besides the parenchyma and the connective tissue—that is, the contents of the portal canals—bile-duct, portal vein, and hepatic artery? Authority pronounces that they suffer from the general contraction in cirrhosis, in the direction of obliteration, although sometimes an exception is made in favour of the bile-duct. I venture to think that they do not suffer to anything like the extent supposed. My sections show distortion of these channels frequently, but distortion does not of necessity imply a decrease in cross-sectional area. Distortion, *plus* decrease in cross-sectional area, occurs, of course; but, I think, the extent to which it has been believed to exist has been exaggerated because of the attempt to explain the ascites so frequent in cirrhosis by this phenomenon only. The fact that the tissues of other organs besides those of the liver are affected in cirrhosis, and especially the myocardium (a point emphasised by Cheadle[2]), is a fact frequently overlooked, and so the partial responsibility of a weak heart for the ascites is neglected. Further, the existence of lymph channels in the loose areolar tissue, of especial luxuriance in the great interstitial tree of the portal canal, and the almost complete occlusion of these serous spaces in hepatic cirrhosis, and consequent large decrease of exudation from the blood-vessels of the organs, are facts, but facts that are never called on as aids to a truer theory of the ascites associated with the lesion. A minor point is that, where dilatation of veins occurs by reason of cicatricial contraction, giving "pulls" on its coat which balance their opposing forces, the same result follows as where the vein is rendered rigid-walled and narrowed by pressure, namely, the driving force of the small amount of muscle in the coat of the vessel is subtracted, and by so much is the blood-current slowed.

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[1] Ribbert, *Das Pathologische Wachstum der Gewebe*, 1896.

[2] Cheadle, *Lancet*, 1900, vol. i.

Measurements of vessels affected by the cirrhotic change and of vessels in a normal liver in regard to cross-sectional area, with a view to comparison and contrast, is out of the question. For, even if one could isolate corresponding portal canals in a cirrhotic and a normal liver, the question would arise—Had they both been normal, would no difference in size have appeared? And that doubt being laid, even if contraction is proved there, all the other canals must also be examined, for it is not denied that contraction exists—the question is as to its frequency.

Leaving measurements aside, appearances exist which, from their very nature, cannot be indicative of anything but the reverse of contraction of vessels. Further, an analogy exists in some forms of bronchiectasis—the cicatrisation of fibroid tissues pulling on the adventitia of the bronchus is causative of the dilated condition. In regard to this matter, Corrigan is quoted by Hamilton,[1] who says, "Corrigan was the first to give anything like a rational explanation of how a fibrous lung affects a dilatation of its bronchi. He wrote, 'If there were but one bronchial tube with contracting fibro-cellular tissue around it, then the contracting tissue would, as in the instance of the stricture of the œsophagus or rectum, cause narrowing of the tube; but when there is, as in the lung, a number of bronchial tubes, and the contracting tissue not placed around the tubes, but occupying the interval between the tubes, then the slow contraction of this tissue will tend to draw the parietes of one tube towards the parietes of the other, and necessarily dilate them.' This," says Hamilton, "although in the main correct, is not strictly accurate. For, if it be true, why then is it that in cirrhosis of the liver, and in cirrhosis of most of the other organs, dilatation of the tubular structures and blood-vessels within them does not take place? The lung in the circumstances in which this variety of bronchiectasy occurs differs from any other organ in being attached by pleural adhesions to a point of resistance, the rigid chest-wall. The liver, urethra, œsophagus, rectum, and most other organs do not possess such fixed surroundings, so that in cirrhosis affecting them, contraction takes place towards their own centres, and produces constriction and narrowing of all the tubular structures within them."

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[1] Hamilton, *Text-book of Pathology*, 1894, vol. ii, pt. 1.

The examples definitely named here by Hamilton (the liver excepted) are really tubular structures in the sense of being single tubes. The liver approximates to the lung in this matter, and though it could only be in an extensive perihepatitis, with adhesion to diaphragm and through it to ribs, associated with an advanced cirrhosis, that the counterpart of a typical bronchiectasis would be found, yet some of my sections indicate that in livers without adhesions to resisting points, the physics of the contracting tissue would of necessity result in dilatation of vessels. A section from a case of advanced hepatic cirrhosis (*post-mortem* examination, 2,595, Glasgow Royal Infirmary) shows a channel almost triangular in shape of lumen, and containing blood. The three sides of this triangular structure are formed by three arcs—each arc being a portion of one of three circles of cirrhotic tissue, such as are frequently seen in the "monolobular" form of cirrhosis. These have met at the portal vein and fused with its adventitia. If, in a case such as this, the cicatricial process goes on, the circles contracting cannot do other than withdraw from each other. But the effect on the vessel to whose adventitia they are bound will be the opposite of crushing and narrowing. I have seen only a few such instances as the above among the 500 sections which I prepared,[1] but the relation to the portal canal of these circular formations of connective tissue in cirrhosis, and the tendency the normal anatomy of the lobule lends to their frequent formation in advanced stages of the disease, dispose me to think of them as occurring fairly often.

The foregoing paragraphs have indicated what may be regarded as a result of the contraction of the tissue viewed *en masse*. Probably, however, the total effects of the many irregular "molecular" contractions are of more consequence as factors in the alteration of the picture presented in a normal portal canal to that presented by the same structure in advanced cirrhosis. For a very striking element in the latter condition is the presence of proliferated bile-ducts or pseudo bile-ducts in abundance. As a rule, the greater the cirrhotic change, the greater the luxuriance of these channels or pseudo-channels; but I have found them absent, or nearly so, in some "monolobular" cirrhoses of liver, while a few cases of the "multilobular" form showed them in great abundance. Cheadle[1] depicts them as occurring in a "cardiac" cirrhosis of liver which had gone on to a "hypertrophic" stage. The effects of the minuter disturbances of tissue-tension, I conceive, are in part represented by these proliferations, although none of my sections demonstrate this. They do demonstrate that the commonest form of these bile-duct-like structures is really a proliferation, and not a lymphatic or blood-vessel, as Voelcker[2] inclines to believe. One of my preparations shows a definite junction between a large bile-duct lined with cubical epithelium and one of these small new-formation channels.

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[1] Forty-seven livers in all were examined. Detailed inspection, however, was limited to thirty-two; and of this latter number, twenty-three were pathological and human. Nine livers—lower vertebrates and human (fœtal and adult)—were normal.

Although microscopic investigation throws no light on the problem as to why proliferation of epithelial structures should occur in the midst of a dense new growth of fibrous tissue, a reference to the comparative anatomy and embryology of the liver does, I think, do so. Shore and Jones,[3] as has already been pointed out, indicate that their researches resulted in the conclusion that the bile-duct did not develop *pari passu* with the parenchyma, but was an ingrowth from the bowel into the mass of liver cell substance already existent —this ingrowth carrying with it a connective tissue sheath from the wall of the gut. If this view be correct, then a part of the connective tissue in the portal canal has an intimacy with the epithelium of the bile-duct not possessed by other parts—an intimacy not only of contiguity, but of origin. (Such a connective tissue sheath is not of necessity confined to the adventitia, but even if it is, the argument that follows holds good.) A somewhat similar intimacy between mesoblastic and epiblastic structures is well seen in a primary carcinoma; and just as in that nesoplasm some subtle "sympathetic" association exists between stroma and epithelium, in such a way that after metastasis of the epithelial portion, that portion is able to call to its aid a stroma, and reproduce in the secondary deposits the arrangement present in the source; so, too, here, where neither metastasis or malignancy obtains, in a different fashion and in a less degree the same binding power is at work. A proliferation of connective tissue surrounding the special investment of the bile-ducts occurs. The special investment of fibrous tissue proliferates in turn, and just as in the primary ingrowth into the mass of embryonic liver tissue, the epithelial lining of the bile-duct goes with it. That the special investment is not distinctly remarked as that of the bile-duct is due to the fact that it is a true proliferation, and therefore a hastily constructed tissue; but that it is probably present can be inferred from the direction of the young fibres seen around many of these proliferated ducts—their sweep and trend being that of these structures.

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[1] Cheadle, *Lancet*, 1900, vol. i.

[2] *British Medical Journal*, 1900, vol. ii.

[3] Shore and Jones, *Journal of Physiology*, 1889, vol. x.

An interpretation of the results of the experiments made by Wickham Legg and by Litten may be arrived at, I think, without much difficulty, which would bring the phenomena observed by them into harmony with the hypothesis stated above. For the process of new growth of fibrous tissue following the ligature of the bile-duct at the *porta*, as described by Legg, bears a striking resemblance to the invasion of the parenchyma of the organ in the embryo by the protrusion of the bile-duct from the intestinal wall.

Legg[1] says, "The process of this hypertrophy of the connective tissue may, I think, be found in the action of the ligature upon the fibrous coat of the bile-ducts. An overgrowth of this is set up which extends into the *porta* of the liver, and thence spreads over Glisson's capsule and the whole of the connective tissue of the liver."

Litten, from similar experiments, concluded that "the proliferation of the biliary ducts was secondary to irritation by an inflammatory process affecting the perilobular fibrous tissue."[2] The phrase, "secondary to irritation," used here, probably means "secondary extension of an inflammatory process." But such extension would mean a catarrh as well as a proliferative process of the bile-ducts, and catarrh is not invariably present in the cirrhosis of obstructive jaundice. The proliferation of bile-channels is better explained in the light of the theory of the origin of the bile-duct in the embryo, I venture to think, as a proliferation by association.

The "saccular and tubular recesses" described by Schäfer as occurring in the wall of the normal bile-duct possess not a little interest in this connection, as harmonising with the theory of development set forth by Shore and Jones and the

[1] Wickham Legg, *St. Bartholomew's Hospital Reports*, 1873, vol. ix.

[2] Dreschfeld, *Journal of Anatomy and Physiology*, 1881, vol. xv.

theory here set forth as explanatory of the phenomena of bile-duct proliferation in hepatic cirrhosis.

When discussing the phenomena of bile-duct new formations I may be permitted to describe what are possibly other, though rarer, sources of these appearances besides proliferation, and so save the confusion resulting from applying the hypothesis given above to structures probably not proliferations. One of these apparent new formations is really "pseudo biliary," an appearance brought about by the crushing of two rows of liver-cells between strands of fibrous tissue. It is seen in the various cirrhoses, but oftenest in acute yellow atrophy of the liver—a disease regarded by Findlay[1] and others as really a cirrhosis. These forms are usually like short tubes on section, but that they are really atrophied liver-cells with persistent nuclei is highly probable. The other form I believe to be a new formed bile-duct, the result of a transformation of liver-cells. Here the cells seem also to be atrophied but the tubes are much longer and have clubbed extremities. The continuity between the cells of the duct and those of the parenchyma is not quite clear, but the similarity of the staining and the approximation in size of the nuclei to those of the lower cells are strongly in favour of such a transformation. Price[2] describes the appearance very well in his lucid paper on hypertrophic cirrhosis, but finds the same difficulty in connecting the duct with the liver-cells. Dreschfeld[3] is more confident, and even describes a proliferation of the parenchyma cells—an endogenous growth thence to smaller cells, and a direct connection of these with small biliary ducts. The appearances which I have found in my sections agree better with the idea of origin from atrophy (a view favoured by Brieger) than that of origin from proliferation.

Other theories of the origin of the new formation of bile-ducts are as follows:—

1. Coats[4] suggests that they are merely normal structures brought into prominence by the destruction of hepatic tissue which they have survived.

2. Price[2] thinks that much of the appearance of abundance is due to the contracting fibrous tissue bringing more ducts into the field of the microscope than would be present in the absence of contraction, "just as is observed in the case of the

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[1] Findlay, *British Medical Journal*, 1900, vol. i.

[2] Price, *Guy's Hospital Reports*, 1884, vol. xlii.

[3] Dreschfeld, *Journal of Anatomy and Physiology*, 1881, vol. xv.

[4] Coats, *Manual of Pathology*, 1895.

Malpighian glomeruli of the kidney in chronic interstitial nephritis."

3. Cornil, cited by Hawkins,[1] believes that the phenomena originate, first of all, by a wasting of the liver-cells, laying bare the biliary canaliculi which are normally formed of basement membrane only; and, secondly, by a proliferation of epithelium from the larger bile-ducts into these canaliculi.

4. Findlay[2] is of opinion that the pseudo bile-ducts resembling columns of liver-cells seen in acute yellow atrophy "are new formed beyond a doubt." He says they "are attempting to form a compound gland, and it is in places very clearly brought out from the apparent convergence of the cylinders towards a portal canal that the true centre of the lobule is, as Delepine and Sabourin hold, the portal canal and not the central lobular vein."

Shore and Jones' researches give conclusions that will not harmonise with the theory of Sabourin and Delepine; but apart from that, some of the histological appearances called pseudo bile-ducts seem to be quite capable of explanation as a result of the dividing up of already existent liver columns by fibrous tissue, and a sequent atrophy of the clear protoplasm due to compression, without calling in the aid of a proliferative process making for repair. Dreschfeld,[3] in his paper on "Acute Yellow Atrophy of the Liver," describes these as "consisting of shrivelled and atrophied liver-cells." He also makes mention of another form of bile-duct—the ordinary or proliferated bile-duct formation. This is quite similar to the proliferated variety found in most "monolobular" cirrhoses; but it occupies different areas from the first form referred to above as present in acute yellow atrophy—that is, the areas of distinct connective tissue proliferation.

5. Voelcker's[4] suggestion that the "bile-duct" new formations are either lymphatics or blood-vessels has already been referred to.

THE QUESTION OF PRIMARY OR SECONDARY CIRRHOSIS.

The wider aspect of the subject involved has been adverted to several times in the course of this paper. Not only in cirrhosis, but in fibrosis anywhere, after wounds or after degeneration of fœtal structure, thymus, &c.; and not only in regard to the relations of connective tissue and parenchyma, but in regard to the relations of connective tissue to connective tissue, and of parenchyma to parenchyma in close anatomical relationship, the questions have to be asked:—What is the invasion of one tissue by another primarily due to? Is there a weakening of one first, and then an access of growth in the other? Or is there a vigorous output of energy on the part of one tissue which gradually overcomes the resistance of the other? In malignant disease a similar question arises; and the theory of "physiological resistance" breaking down and affording the first advance to the potential neoplasm correlates with the theory of primary degeneration of the parenchyma followed by a secondary fibrosis. On the other hand, the theory that carcinoma owes its origin to a parasite or to a chronic irritation finds its equivalent in the view that cirrhosis of the liver arises from a chronic interstitial inflammation.

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[1] Hawkins, Clifford Allbutt's *System of Medicine*, 1897, vol. iv.

[2] Findlay, *British Medical Journal*, 1900, vol. i.

[3] Dreschfeld, *Journal of Anatomy and Physiology*, 1881, vol. xv.

[4] *British Medical Jounal*, 1900, vol. ii.

The question may be set in another way. It may be asked, Is there ever a fibrosis that is non-inflammatory? If there is, then the possibility of a cirrhosis wholly secondary to a primary degeneration of parenchyma is brought into view. Duchenne's pseudo-hypertrophic paralysis is said to present such a case of non-inflammatory fibrosis, the increase in the intermuscular connective tissue being apparently sequent on a degeneration of the muscle-elements.[1] But, as has been previously pointed out, even if the degeneration of the parenchyma be primary, the fact of the fibrosis being secondary does not preclude the possibility of its having an inflammatory origin of chronic nature. Indeed, it might be argued that degenerated material being present, an inflammatory exudation must follow.

Experiment has, up till the present, thrown little light on the subject. Typical of the situation are the results obtained by Afanassiew and de Rechter in their investigations as to the effect on the liver of the rabbit of the administration of alcohol to the animal over long periods. The former found that the parenchyma was affected even to the formation of necrotic foci, which in turn acted as irritants to the surrounding tissue, so that a new formation of connective tissue resulted. The latter concluded that a fibrosis was primary, and that the hepatic cells were uninjured save for some slight atrophy resulting from the contraction of the new-formed connective tissue.[1]

Perhaps the problem has been stated too much in the fashion of "either," "or." Conditions of fibrosis have been set against each other in a way that renders them abstractions. A deeper unity may reconcile differences; one cause may act differently on two tissues. In hepatic cirrhosis, just as in the granulating wound, what is an irritant to one kind of tissue may prove a stimulant to the growth of the coarser elements present. As regards the occurrence of fibrosis pure and simple, the probability is, I think, that it never takes place, any more than that chronic inflammation takes place by itself. In the twenty-three cases of passive hyperæmia, cirrhosis, and yellow atrophy of the liver which I have examined, none shows such an absence of small round cells as would justify the description of it as a fibrosis of non-inflammatory origin. It is perhaps, however, hardly justifiable to ask for such an absence of leucocytes as a proof of pure fibrosis. For it is not impossible that a leucocytic emigration occurs from other than inflammatory causes in (say) hepatic cirrhosis. Suppose there were a partial primary degeneration of the parenchyma—a loss of tissue-tension of the part of the liver cells, as Ribbert[1] would say—then the rapid proliferation of the peripheral connective tissue cells would set up disturbances of the dynamic relations of the cells farther internal in the portal canal. Can the scientific imagination picture such disturbances as leaving unaffected the blood-cells in the circulatory apparatus of the part, especially such cells as constantly tend to emigrate? Release of pressure influences would act in such a case in the same fashion probably, but in a very minor degree, as the operation of cupping or the forces that originate caisson-disease.

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[1] Lazarus-Barlow, *Manual of General Pathology*, 1898.

We must, therefore, answer in the affirmative the question—May not other forces than chemiotaxis lead to an emigration of white blood corpuscles? and we must conclude that the presence or absence of leucocytes alone will not aid us in distinguishing a primary from a secondary cirrhosis. But if, in addition to the leucocytic phenomena, we take the condition of the parenchyma and its relation to the new connective tissue as guides in this matter, the issue is clear. In acute yellow atrophy, as Findlay[2] has shown, the cirrhosis is almost wholly secondary. "There is not a single lobule in the liver free from advanced fatty changes, and yet many show a comparative freedom from the invading connective tissue," he says. I do not think, however, that this writer is justified in generalising from so acute a process as this disease to the cirrhoses of varied causation, and claiming them all as secondary also. Indeed, many of the cases which I have examined are definitely primary. For instance, in the specimens of liver with obliterated or congenitally absent bile-ducts (*post-mortem* examination, 1,295, Glasgow Royal Infirmary), small, deeply-staining round cells are seen in great numbers at the margins of the new-formed connective tissue —undoubtedly leucocytes. The parenchyma is quite healthy; no necrosis or fatty change is evident. In addition, the fact of the obliteration or congenital absence of the bile-ducts has to be taken into account. Since the lesion is such, it is probable that, whether the obliteration took place before or after birth, some irritant travelled fròm the *porta* or point of obliteration along the biliary trabeculæ, involving connective tissue only, because the serous spaces of that structure afford a ready means of diffusion, and, leaving the parenchyma unhurt, because the lymphatic system of that tissue is infinitesimal, and the slight current of fluid there sets towards the portal canal. On the other hand, sections from the case of advanced cirrhosis of liver (*post-mortem* examination, 2,484, Glasgow Royal Infirmary) show that the fibrosis is clearly secondary to parenchyma necrosis. The cirrhosis itself is evidently acute; no spindle-cells have yet had time to develop, and yet half the field is covered with the beginnings of a definite new formation of connective tissue. A history of alcoholism and of a sustained drinking bout of six weeks before death (from opium poisoning) was given in this case.

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[1] Ribbert, *Das Pathologische Wachstum der Gewebe*, 1896.

[2] Findlay, *British Medical Journal*, 1900, vol. i.

In another cirrhosis of advanced nature (*post-mortem* examination, 2,197, Glasgow Royal Infirmary), some islands of glandular tissue are greatly degenerated, while others are quite healthy; and here it is probable that both primary and secondary forms of cirrhosis are present. Every section could be reviewed in this manner, and an attempt at apportionment of causal activity made, but repetition would be inevitable and little would be gained. To sum up, we can speak of cirrhosis as secondary, typical of this is the lesion in acute yellow atrophy; and we can speak of cirrhosis as primary, a type being the cirrhosis from congenital absence of bile-duct. But, even in these extreme cases, there is probably some alloy— the one is only *mainly* secondary, the other only *mainly* primary. And so on in the other less definite lesions are mingled in varying degree the varying factors—loss of tissue-tension, irritants of interstitial substance alone, irritants of parenchyma which act also as stimulants to the fibrous stroma —so that we may speak even of a cirrhosis which is neither primary nor secondary, but simultaneous with necrosis.

The general conclusion here arrived at in regard to hepatic cirrhosis may be supposed to hold good for the general aspect of the problem. The obliteration of the urachus, of the ductus arteriosus, and of the sinus of Cuvier, the fibrosis of the thymus, the induration of the testes and ovaries in the aged, the sclerosis in tabes dorsalis, the changes in ricketty bones, may be explained mainly as non-inflammatory processes due to changes in tissue-tension, but it may be doubted if they are wholly due to these. If dead material be present, no matter how gradual its death, the ordinary processes of removal of such would obtain here as elsewhere; some leucocytic emigration of a chronic inflammatory nature is to be expected. So, too, in our conception of scar-formation, a single factor such as tissue-tension will not suffice. The "infinite variety" of Nature is not an empty phrase; the reparative processes in even the slightest scratch bear witness to its truth; and "the more we learn of pathology, the more we find that very simple explanations are liable to be upset by later investigations."[1]

My thanks are due to Professor Charles Workman, Pathologist to the Glasgow Royal Infirmary, and to Dr. John Anderson, Pathologist to the Victoria Infirmary, Glasgow, for the supply of material used in this research. To Professor Barlow and Professor Workman I am also indebted for permission to carry on my investigations in the Physiological and Pathological Laboratories of St. Mungo's College during vacations.

CURRENT TOPICS.

Mr. H. E. Clark, C.M.G.—It is a source of great satisfaction to Mr. Clark's many friends, and to those who were with him at the seat of war, that the King has seen fit to honour him by conferring upon him the Order of St. Michael and St. George in recognition of his services in South Africa as surgeon-in-chief of the Scottish Red Cross Hospital. The hospital did excellent work at the front, and it is fitting that its services should be recognised by the conferring of this honour upon the chief of its surgical staff.

Prevention of Tuberculosis in Glasgow.—A meeting of the Executive Council of the newly formed Association was held in the City Chambers on the afternoon of Wednesday, 15th ult. Lord Provost Chisholm occupied the chair. A letter was read from Lord Overtoun, expressing regret that, owing to pressure of other duties, he would be unable to accept the office of Hon. President. Mr. Nicol likewise was unable to accept the office of Joint Treasurer. The matter of these, and a few other vacant offices, was referred to a small committee for consideration and report. Bailie Dougan, M.D., was unanimously elected Vice-Chairman of Council. It was agreed that the statutory monthly meeting of the Council should take place at 4 P.M. on the first Wednesday of each month, beginning with June.

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[1] Lazarus-Barlow, *Manual of General Pathology*, 1898.

UNIVERSITY OF GLASGOW: APPOINTMENT OF EXAMINERS IN MEDICINE.—At the last meeting of the University Court the following gentlemen were appointed additional examiners for degrees in medicine:—Dr. William Hunter (London) in medicine—systematic and clinical; and Mr. Albert Carless (London) in surgery—systematic and clinical. At the same meeting, the Court appointed Dr. J. Lindsay Steven (lecturer on the practice of medicine, Queen Margaret College) lecturer-examiner in medicine—systematic and clinical.

PRESENTATION OF AN ADDRESS TO MR. HUGH BROWN.—At a largely attended meeting of the medical and surgical staff of the Glasgow Royal Infirmary, held on Friday, 10th May, in the Board Room of the Infirmary, Mr. Hugh Brown was presented with an address on the occasion of his retirement from the office of chairman of the House Committee after a period of service of sixteen years. Mr. J. D. Hedderwick, chairman of the House Committee, presided, and with him were Mrs. and Miss Brown, Mr. David M'Cowan, and Dr. Moses Thomas, superintendent of the infirmary. Among the members of the visiting staff present were—Mr. H. E. Clark, C.M.G.; Dr. John Dougall, Dr. D. C. M'Vail, Dr. David Newman, Dr. G. S. Middleton, Dr. John Barlow, Dr. J. A. Adams, and Dr. John Lindsay Steven. There was also a very large representation of the assistant medical and surgical staff and of the gentlemen in charge of the special departments of the infirmary. The presentation was made by the senior members of the staff, Mr. H. E. Clark, C.M.G., and Dr. John Dougall. Mr. Hugh Brown, in accepting the address, thanked the members of the staff very cordially for their recognition of his services. He had been a member of the management since 1872, and he had seen great progress in the work and equipment of the infirmary. Apart from this long period of active service, he had been interested in the affairs of the infirmary since his boyhood, as his father had been a manager before him, and thus he had the pleasure of knowing many of the older managers of the institution. His relations with his fellow-managers and with the members of the staff had always been of the most cordial character, and this had greatly helped him in the discharge of duties which, though always pleasant, were sometimes somewhat onerous. Many improvements in the structure of the infirmary had taken place during his term of office, and among these he made special mention of the Bellahouston Theatre, which was a noticeable addition to the surgical equipment of the hospital. Referring to the reconstruction scheme, Mr. Brown spoke hopefully of its speedy accomplishment, and he was sure that his successor, Mr. J. D. Hedderwick, was the very best man who could have been chosen to preside over the managers during this important work. He was glad that the plans originally considered by the managers had not been proceeded with, as they had been replaced by a much more complete scheme of reconstruction. As regards the site, he was, as he always had been, of opinion that the present was the best that could be chosen. It had this great advantage, that it could never be more closed in than it was at present, and unless the managers were prepared to purchase a large estate in the outskirts, there was hardly a site near Glasgow of which this could be said. He hoped that under his successor a new infirmary, worthy of the city and of the history of the Royal Infirmary, would soon be erected. In conclusion, he assured the meeting of his continued interest in the welfare of the infirmary. On the motion of Dr. David Newman, a vote of thanks was passed to Mr. J. D. Hedderwick for presiding.

MEETINGS OF SOCIETIES.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.

SESSION 1900-1901.

MEETING V.—11TH FEBRUARY, 1901.

The President, MR. H. E. CLARK, *in the Chair.*

I.—ATROPHY OF THE TESTICLE RESULTING FROM RHEUMATIC ORCHITIS.

BY DR. T. K. MONRO.

Samuel G., æt. 12, a schoolboy, was admitted to the Glasgow Royal Infirmary on 24th September, 1900, complaining of pain in the legs, arms, and abdomen.

No history of any previous illness was obtained. He had played truant from school on the 12th and 13th, and slept outside in a closet on these two nights. On the 16th, in course of a scramble, he fell, and five or six other boys sat upon him, with the result that his right elbow was sore up to the time of admission. On the evening of the 17th he had pains all over his legs, and could not move them. Next morning his arms became stiff. Vomiting began about the same time, and recurred at intervals till admision. On the evening of admission, the principal symptoms were sickness and severe pain over the abdomen generally. On the next day there was slight pain in the left shoulder. The bowels were constipated, and the tongue dry and furred. The temperature on the evening of admission was 101·6°; after this it never exceeded 100·6°. The heart, lungs, and kidneys were normal. On the 25th there was some swelling of the back of the right hand, almost confined to the soft tissues. On the 26th the left hand was similarly affected. On the same day there was some erythema over the elbows and knees without any associated subjective symptoms. On the 27th patient complained greatly of abdominal pain, chiefly about the middle line below the umbilicus, and also of pain in the testicles, especially the right. Next day the pain continued, and the testicles were swollen and very tender. Patient vomited after breakfast and also in the afternoon. The right hand was swollen, stiff, and painful. The left hand was affected similarly, but in less degree. On the right side, the swelling extended a little way up the forearm on the extensor aspect. Patient complained that night (28th) of pain in the supra-sternal fossa and sterno-clavicular articulations, and there was also slight pain in the right knee. Nothing abnormal was detected in the throat. There was slight induration in the groins. Over one buttock there was now an abundant eruption of papules with hæmorrhagic centres. Some of the papules tended to become vesicles. On 2nd October, pains were felt in the arms. The right testicle was still considerably swollen, but was now free from pain. After 4th October patient was free from pain, and by 9th October the temperature became subnormal. The swelling of the right testicle subsided very gradually. The gland was still noted as slightly enlarged on 27th October, but by 1st November it had reached its normal size. On 26th January, 1901, patient returned by request to show himself. It was then found that the right testicle was reduced to about one-third of the size of the left. It felt softer than the normal one, but how far this softness was due to shrivelled fibrous tunics could not be ascertained.

Orchitis is a very uncommon complication of rheumatism. When Dr. Archd. Garrod published his well-known treatise in 1890, it would appear that no case had come within his own experience, or was to be found in Sir Alfred Garrod's hospital note-books. My former house physician, Dr. John Henderson, was kind enough to make a thorough search through medical literature for records of such cases, but the result was meagre indeed. Setting aside a few papers or theses not accessible here, the titles of which suggest that the writers may have seen such a condition, the following more definite statements may be alluded to. Roderick Macleod,[1] writing in 1842, speaks of persons subject to rheumatism complaining of acute pain in one or other testicle, coming on suddenly, accompanied by increased heat, and by great tenderness, but without tumefaction; the symptoms shifting from one testis to the other, and suddenly disappearing, just as we see rheumatism affect the joints. Garrod[2] mentions, on the authority of Besnier, the occurrence in connection with rheumatism of a form of orchitis similar to that met with in mumps, affecting one or both testicles, not outlasting the rheumatic attack, but followed occasionally by atrophy of the organ. And, lastly, W. J. Penny,[1] of Bristol, records the case of a man, aged 33, who, after suffering for a fortnight from aching pains about the body, and for about a week from pain and swelling in the hands, noticed swelling of the left testicle, and a day later of the right also. Great tenderness was associated with the enlargement. Salicylate of soda was ordered, and after five days the condition of the testes and of the hands had improved. After a fortnight, both glands had regained their normal state, and patient was discharged.

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[1] *Rheumatism in its Various Forms*, 1842.

[2] *Treatise on Rheumatism*, 1890, p. 171; see also Besnier, *Dict. encycl. des sc. méd.* (3 sér.) 1876, T. 4, p. 758.

Dr. Alfred A. Young was much interested in this case; it seemed to elucidate a case which he had had some time ago. His patient, a young man, had a family history in which there was distinct evidence of rheumatism. An orchitis had supervened on a follicular tonsillitis, and there ultimately occurred atrophy of the testicle. In view of Dr. Monro's communication he, perhaps, might consider that there had been a rheumatic element in this case.

II.—INSULAR SCLEROSIS WITH LOSS OF STEREOGNOSTIC SENSE IN THE RIGHT HAND (SENSES OF TOUCH, PAIN, AND TEMPERATURE PRESERVED).

BY DR. T. K. MONRO.

The patient, Helen H., æt. 23, a bottler, suffers from symptoms pointing to insular sclerosis. She was admitted to the Glasgow Royal Infirmary on 22nd January, 1901, complaining of inability to walk, trembling in the hands, and headache. For eleven years past she has worked in an aërated water factory, and has often been wet up to the waist. She had measles in infancy, and in June, 1900, was in bed for four days with influenza, but otherwise has always enjoyed good health. There is no history of any emotional cause for the illness.

The present illness began nearly five months ago, with vertical headache, giddiness, and deafness in the right ear. The deafness soon passed off, but seems to have afterwards involved the left ear slightly for a time. After her admission, however, Dr. Love, aurist to the infirmary, found hearing normal in both ears. The headache and giddiness continued for two months, and then passed off, but have since returned at times. Nearly four months ago, the legs gradually became unsteady, and when she was walking her left foot dragged. This paresis of the legs has remained practically unchanged. Numbness began in the legs about six weeks after the paresis, but afterwards passed away from the left leg and became trifling in the right. While the numbness was present, so that she could not feel the ground properly, there was also for some days a feeling of pins and needles in the feet, and this tingling recently recurred for a day or two.

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[1] *Bristol Med.-Chir. Jour.*, 1888, vi, p. 49.

The right hand was first affected about six weeks ago, the left about three weeks later. Stiffness, loss of power, and numbness, seem all to have come on about the same time. Patient first noticed the stiffness, and would let articles drop. Occasionally during the past fortnight there have been slight pains passing down the fore-arms to the fingers. When these occur, they continue for some time.

For some time before and after admission there were two areas in front of the abdomen, one in the upper and the other in the lower part, where the patient had numbness, and in the case of the upper, a sense of constriction in addition.

Apart from constipation, which has troubled her chiefly since admission, there has been no disorder of the digestive system. Deglutition, micturition, speech, the mental functions, smell, taste, the bodily temperature, and the urine are all normal. There has been no loss of consciousness, and no superficial trophic lesion. There is well-marked spontaneous nystagmus involving both eyes. Patient is quite positive that this set in only in connection with the present illness. The movements are lateral, the quick ones being to the left. The rate of the the double movement has been found to be 138 per minute, but is not quite uniform. A scar is present over each cornea, the result apparently of disease that set in two or three days after birth. There is convergent concomitant strabismus involving chiefly, if not solely, the right eye, and present since the age of 3. The ocular defect prevented her learning to read or write. On account of the scars in the corneæ and the rapid movements of the eyeballs, it has not yet been possible to examine the fundi properly.

There seems to have been some degree of intention-tremor in the right hand before and just after admission, but this has passed away.

There is no muscular atrophy, and no spinal curvature or weakness of spinal muscles.

The partial and varying character of the paresis is illustrated by the fact the dynamometer on the day after admission showed—right hand, 8 kilos; left, 22 kilos; whereas, this morning, it showed—right hand, 12 kilos; left, zero. The knee-jerks are exaggerated, and there is a tendency to ankle-clonus. The plantar reflexes take the form of extension of the great toes.

The stereognostic sense has varied somewhat quite recently, but the following note, made on the 4th inst., indicates the sensory condition of the right hand at that time:—

Right hand.—Localisation of touch impressions is very accurate. The senses of touch, pain and temperature, and common muscular sensibility are normal.

There is defect in the recognition of two simultaneous touches in the same region, and it may even happen that when the finger is held by the finger and thumb of the observer, the patient only recognises the touch on one side of the finger.

There is also defect in recognising pressure, so that, on one occasion, when the patient's finger was firmly squeezed, she described it simply as being held up. The sense of active movement is normal. Thus, the patient will move her digits into various positions, and accurately describe these positions. The sense of passive movement is slightly impaired. This is shown chiefly by the patient describing her finger as being moved when it is simply held in a stationary position. The sense of posture is normal. The sense of weight is defective, but not lost. The most conspicuous defect, by far, in this part is the inability to recognise the form of objects. Thus, a cylinder is described as a pocket knife; a pocket knife is quite unintelligible; a paper knife is described as like a cork-screw; a tape measure, about one-third of an inch thick, as like a coin; the stem of a stethoscope as like a finger; a piece of paper as nothing at all; and a piece of soft rubber tubing as being as hard as a pencil.

Defect is not nearly so apparent in regard to consistence, roughness, &c. But a nail-brush, which is not recognised, is described as being rough on both surfaces.

When two coins of different size are put into the hand, there is much uncertainty as to their number and relative size.

Co-ordination in the affected hand appears to be normal.

Mr. H. E. Clark thought the nystagmus was possibly associated with the presence of leucoma.

Dr. Workman asked if the patient could distinguish two points from one in the finger-tip.

Dr. Monro, in reply, considered nystagmus, when present, an important symptom of disseminated sclerosis. In this case, however, the girl stated that it only came on with the other symptoms of sclerosis. In answer to Dr. Workman, he stated that the power of distinguishing two points was very deficient.

III.—SPECIMENS.

BY DR. H. RUTHERFURD.

1. *Post-rectal dermoid removed by the parasacral route.*—The tumour was the size of a Tangerine orange, was situated above the pelvic fascia, and communicated with the surface by a fistula to the right of the anus, in a woman, aged 34.

The case is discussed in the *Glasgow Hospital Reports*, vol. iii.

2. *Case of coxa vara*, with a case of congenital dislocation of the hip for comparison.

3. *Specimen of painful subcutaneous tumour* (*Wood's tumour*).—The tumour was the size of a small pea, immediately underneath the skin, a portion of which was removed with it, but which it did not involve. Microscopic sections, which were shown, presented a typical myomatous structure.

The patient was a woman, aged 26, who had known of its existence for four years. It was very tender, but also the seat of pain not apparently related to pressure or knocks. It was specially troublesome at the menstrual periods. Patient was the subject of varicose veins in the affected limb.

Dr. Rutherfurd referred to two other specimens previously shown to the Society by him—one of which, from the leg, was also a myoma; the other, from near the umbilicus, in a man, was an endothelioma.

Mr. H. E. Clark thought that spasmodic pain in such a tumour might point to the presence of nerve-endings in the growth. He mentioned having had a case in which the tumour was connected with Pacinian corpuscles; there was no myomatous tissue present.

Dr. Workman had examined three cases of Wood's tumour. In all, the structure was distinctly that of non-striated myoma, and there were no signs of nerve-endings at all. To be sure of these, it would be necessary to fix the tumour for special staining.

4. *Skiagraph showing downward dislocation of the patella, with engagement of its upper edge between femur and tibia.*—Reduction was done by open operation, with satisfactory result. The condition was the result of direct violence. Operation showed a practically intact quadriceps, the upper half of the patella being torn out of its fibrous investment. (For details see an early number of the *Lancet*.)

IV.—SPECIMENS ILLUSTRATING (*A*) FOUR CASES OF TUMOUR AND (*B*) EXTENSIVE TUBERCULAR LESIONS OF BRAIN.

BY DR. CHAS. WORKMAN.

Dr. Workman showed preparations of the brain from four cases of tumours of various kinds, and along with them one case of very extensive tubercular disease for comparison.

A. 1. The first was from the case of Mrs. M'I., who was under the care of Dr. D. C. M'Vail, and who suffered from sick headaches, with giddiness and vomiting, of ten years' duration. The headache was felt worst at the vertex. Along with it there was double vision, one image appearing above the other. There was no squint.

Post-mortem inspection (27th October, 1900).—On removing the calvarium and reflecting the dura, the convolutions were seen to be somewhat flattened, and over the right frontal area there was some adhesion of the brain to the dura. This part of the brain was found to be the seat of a tumour, the size of hen's egg, which was for the most part very soft, but its surface close to the meninges was firm and white. The soft middle part had a rich, yellow colour, and in this part there were several small cysts containing yellow fluid. The tumour, on microscopic examination, was found to be a glioma; it was not well demarcated from the surrounding healthy brain. The other parts of the brain and membranes presented healthy characters.—(Glasgow Royal Infirmary, Path. Journal, No. 2,864.)

2. The second was from the case of a boy of 9 years, P. A., who was under the care of Dr. Lindsay Steven, and who suffered from cerebral vomiting of at least six months' duration, with frequent headache and pain in the neck. Tâche cerebrale. No convulsions. Progressive emaciation.[1]

Post-mortem inspection showed that the thoracic and abdominal organs, except for some congestion, were practically healthy. On removing the brain, considerable hydrocephalus of the lateral and third ventricles was found, and a tumour of very firm consistence was seen filling the cavity of the fourth ventricle, and extending into both lateral lobes of the cerebellum, but chiefly the left. It extended also to the surface at the left side of the medulla oblongata, and displaced or involved the middle lobe of the cerebellum. The tumour was largely of a deep red colour, and very vascular, but part in the left lobe of the cerebellum showed signs of necrosis, apparently caseous. It was about the size of a large walnut, and from its mode of extension was probably malignant.

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[1] A clinical report of this case will be found in Dr. Lindsay Steven's paper at p. 404.

On microscopic examination, the tumour was found to have the structure of a columnar-celled adenoma, but of very irregular arrangement. It probably had taken origin from the choroid plexus, or the ependyma of the fourth ventricle.—(Glasgow Royal Infirmary, Path. Journal, No. 2,881.)

3. The third was from the case of David H., aged 15, a patient under the care of Dr. D. C. M'Vail, who was sent into the infirmary supposed to be suffering from chronic nephritis, but no evidence of kidney disease could be detected during his residence. He complained since July, 1900, of occipital headache, with pain down the back of neck and spine. Sickness and vomiting every morning, and occasional night micturition. These symptoms had been present every morning since July. None of them were constantly present, only in the mornings. There were no other symptoms. Pupils reacted to light and accommodation. Tactile, thermal, and muscular sensation were normal. There was general wasting of the muscles, and considerable loss of power in some groups, particularly the thigh muscles and the muscles of the back, neck, and front of arm and abdomen. The reflexes were present. The power of swallowing was slow. Patient had two or three faintish attacks while in hospital, in which the pulse was about 40 per minute.

No definite diagnosis was made.

At the *post-mortem* inspection (14th November, 1900), a large tumour was found involving the right lobe of the cerebellum chiefly, but extending beyond it, and adherent to the soft membranes and dura mater, so that, in removing the brain, a large piece was torn away. The tumour was of very soft consistence, and not very vascular. On microscopic examination it was found to be a small round-celled sarcoma. —(Glasgow Royal Infirmary, Path. Journal, No. 2,880.)

4. The fourth specimen was from the case of John M., aged 39, a horseshoer, who was under the care of Dr. Knox, suffering from epilepsy. The attacks began two years ago, when he had three fits. After that time he had no recurrence till February, 1900, when he had a number in quick succession. From that time he had no return till 22nd January, 1901, and from that he rapidly passed into the status epilepticus, and died before operation could be attempted. Each fit began with clonic movements of eyeballs towards the right, then of muscles of face, mouth, and head towards the right side. At this stage there was a long-drawn cry, and then the right arm became affected, and sometimes the right leg. He did not bite his tongue, nor was urine voided during the fits.

The *post-mortem* inspection showed adhesion of the dura and soft membranes over the right frontal lobe where the tumour came to the surface. A large, soft tumour was found occupying a great part of the anterior half of each hemisphere, and apparently pressing the corpus callosum downwards. At the outer part of this tumour, especially well seen on the left side, there were a number of small cysts, and into various parts of the tumour there had been small hæmorrhages, evident by the brown discolouration. Microscopic sections show that the tumour is a small round-celled sarcoma.—(Glasgow Royal Infirmary, Path. Journal, No. 2,952.)

B. Brain from a case of very extensive tubercular disease.—Jane R., aged 6 years, was under the care of Dr. George Middleton. In this case there were numerous foci of tubercular disease in all parts of the brain, one large mass in the cortex of the right hemisphere, and a considerable mass in each of the lateral lobes of the cerebellum. There was also moderate hydrocephalus.—(Glasgow Royal Infirmary, Path. Journal, No. 2,895.)

V.—TWO HEART SPECIMENS.

By Dr. Chas. Workman.

1. Dr. Workman showed, also, a heart, in which there was complete blocking of one of the branches of the coronary artery, where there had been hypertrophy of the left ventricle, and the obstruction had caused an aneurysm of the heart wall. Death had been caused by a railway accident—not from disease.

2. An enormous hypertrophy of the heart, from a patient,

aged 44. The heart weighed 41¾ oz. There was neither valvular disease nor renal disease to account for the condition. There was considerable atheroma of the aorta. The pericardium contained about half a pint of fluid. Mitral and tricuspid orifices were enlarged. Patient was admitted under Dr. Lindsay Steven on 26th May, 1900; died suddenly on 28th May.

VI.—CARD SPECIMENS.

By Dr. H. M'Laren.

1. *Specimen of the appendix vermiformis.*—This specimen was removed from a woman who died from septic peritonitis which had originated in the uterus after delivery. The appendix at the *post-mortem* examination was 5¼ inches in length. It passed upwards behind the ascending colon, and it was attached to the posterior abdominal wall by a delicate mesentery. At its extremity it was firmly bound down to the under surface of the right lobe of the liver, about half an inch from the anterior and outer margins.

2. *Specimen of embolism of popliteal artery, thrombosis of femoral veins, and embolism of pulmonary artery, which latter caused death.—Clinical summary:* Miss M. was admitted to the Glasgow Royal Infirmary on 19th January, 1901, in a critical condition. The pulse was imperceptible at the wrist; respirations shallow and distinctly rapid; temperature, 98° F. Her general nutrition was fair. There was great œdema of left lower extremity, with discolouration of foot and leg, and the limb was icy cold. The cardiac sounds were rapid and of short duration. No murmur was detected. Nothing abnormal was made out on examination of the lungs and abdomen. The urine contained a trace of albumen and sugar; no blood; specific gravity, 1023. Epithelial cells were found in the sediment, but no tube-casts. She died suddenly on 20th January, 1901.

At the *post-mortem* examination several globular thrombi were found in the heart, in both ventricles, and left auricle, but otherwise the heart presented nothing unusual.

The left pulmonary artery, at its first branch, was plugged by a large embolus. The smaller branches of that artery were, for the most part, empty, but some contained small *post-mortem* clots. The left lung, except for some congestion and œdema, presented a fairly healthy appearance. The anterior half of left foot was gangrenous, and there was considerable œdema of left lower extremity. The left popliteal artery was obstructed by another large embolus, and all the large veins of the left lower extremity were distended and blocked by a red thrombus, which had extended into and obstructed the left external iliac and common iliac veins, as far as the inferior vena cava. The liver and spleen were congested. The kidneys presented the signs of commencing parenchymatous inflammation.

OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

Session 1900-1901.

Meeting VII.—13th March, 1901.

The President, Dr. Robert Jardine, *in the Chair.*

I.—TWO CASES OF MEASLES IN PUERPERAL WOMEN.

By Dr. Robert Jardine.

Puerperal measles is of sufficient rarity to warrant me in placing the two following cases on record. They both occurred in the Glasgow Maternity Hospital during the hospital year 1896-97. Several months intervened between them, so there was no question of the one having infected the other. One of our nurses also had measles, but she was not infected from either of these cases.

Case I.—A. M'K., single, æt. 30, i-para, admitted 11th December, 1896, delivered 12th December. The vertex presented in the left occiput anterior position. Forceps was used in the cavity on account of the second stage being prolonged. The child was alive, and weighed 9½ lb. The perineum was slightly ruptured and required two stitches. Her puerperium was perfectly normal until the seventh day, when her temperature rose from 99° in the morning to 101° in the evening. Until the thirteenth day the temperature was never below 100° F., and reached the highest point, 103·4° F., on the evening of the eleventh day. On the morning of the thirteenth day it fell to 99° F., and she was covered with a copious measles rash which had come out during the night. During all these days she had never complained of any special pain or discomfort except from the heat. The lochia were sweet, and involution of the uterus had gone on steadily. She never showed any signs of coryza. I could not account for the temperature, but felt sure that it was not due to septic absorption. She was given quinine from time to time.

She was a Highland servant girl, and, like many of them, had not had measles during her childhood. The source of infection, we afterwards discovered, had been a child who was sickening with measles, in the house the girl had lodged in, the day the patient was admitted to the Maternity Hospital. The incubation stage had lasted fourteen days.

She was at once removed to Belvidere, and her child, which up to then had shown no signs of measles, was taken charge of by her friends. Unfortunately, I could not gain any information as to whether or not it took the disease. The patient made a good recovery in Belvidere.

CASE II.—A. G., single, æt. 28, ii-para. This girl had been in the hospital as a waiter-on from 9th November, 1896, until the time of delivery, 3rd April, 1897. I am glad to say this system of taking in pregnant women to do part of the work of the hospital has now been abolished. She, along with the other maids, slept out of the hospital in a house across the street. She had been working about the hospital as usual on 3rd April, although she had felt out of sorts with a bad headache, but there had been no marked coryza. As labour was beginning, she was brought into hospital at night, and the resident then noticed the rash beginning to show. Her temperature was 99° F. The labour was normal, lasting nine and a half hours. There was no tendency to post-partum hæmorrhage. The child, a female, weighed 7½ lb. Next day the rash was well out. We kept her in hospital for three days and then sent her to Belvidere. The highest point the temperature reached, 101° F., was on the evening of the first day.

I believe she made an ordinary recovery in Belvidere. The child, which had remained with her in the hospital, was sent to the receiving house, and was visited from time to time, but it did not develop the disease for a fortnight at least. The source of infection I could not determine, but it certainly was not in the hospital. None of the other maids took the disease.

In both of these cases the attacks were mild. In the first the catarrhal signs were entirely absent, and were only slight in the second. Cases have been recorded where the fœtus had been affected *in utero*, and showed the rash within a few hours of birth. In the second case, one would have expected this, but not in the first. The second child did not develop the disease within a fortnight, although exposed to the infection by being in bed with the mother for three days. It would be interesting to know if that child ever takes measles. It may have been rendered immune to the poison.

These are the only two cases I have met with, but one or two others have been recorded in the *Hospital Reports*. Some years ago I attended a patient in her second confinement, and found on paying my first visit afterwards that her first child had been put into the bed along with its mother, as it was so peevish nobody could do anything with it. I found it was developing measles. It remained with the mother, and she suffered no evil effects, but she had had measles in her infancy. The new-born babe, however, showed the rash distinctly on the eighth day. It made a good recovery.

The classical case recorded by Sir James Simpson so many years ago, and those collected and recorded by Dr. Underhill, would lead one to suppose measles was a very dangerous complication of the puerperium. Professor Simpson, I remember, taught us that it was distinctly a dangerous disease in a puerperal woman. The case recorded by the late Dr. Angus Macdonald, in the Edinburgh Obstetrical Society's *Transactions*, led him to believe the disease was not so fatal as was generally supposed. My two cases tend to show the same, and I have brought them before you to-night in the hope of learning the experience of the Fellows generally.

Dr. G. Balfour Marshall referred to a case of scarlet fever in a new-born child, the mother remaining immune. The infant turned ill on the second day after birth, and twenty-four hours later the rash of scarlet fever appeared. The source of infection was in a house next door in the same stair. The period of incubation could not have been more than twenty-six hours. The mother consented to take the risk of nursing her child, and, fortunately, escaped infection. This case was interesting, as scarlet fever is supposed to be specially dangerous to a puerperal woman. Another point was the undoubted short period of incubation of the scarlet fever in this child.

Dr. J. Edgar mentioned a case where a puerperal woman remained immune from measles although three children were ill with this fever in the same house. He also saw a case of scarlet fever in the puerperal woman, the illness commencing on the fifth day after confinement. The source of infection was traced to a friend who had visited her on the second day of the puerperium.

II.—FATAL CASE OF PUERPERAL SEPTICÆMIA FROM GONORRHŒAL RHEUMATISM.

By Dr. Robert Jardine.

Last session I gave notes of three cases of puerperal septicæmia of unusual origin. To-night I have to record another one, which is, perhaps, of even greater rarity than any of the others.

Mrs. C., æt. 31, iv-para, eight months pregnant. Her former pregnancies and confinements had been normal. About three years ago she had lost her two children, after a few hours' illness, by malignant measles. She suffered very much from nervousness after this, and had occasional seizures of *petit mal.* During the present pregnancy she had suffered a good deal from nervousness, but her health was otherwise fairly good.

On 23rd June she was going about as usual until about 10 P.M., when she was suddenly seized with severe pain in the right knee and heel. When I saw her at 11·30 P.M. she was screaming with the pain. The knee was not swollen, but she screamed when pressure was made on the outer or inner side. Her pulse was 120, and the temperature 99° F. Hot fomentations had been applied, but had given no relief. I gave her a quarter of a grain of morphia subcutaneously, and ordered 15 grains sod. salicyl. every four hours. Nothing gave her any relief except hypodermic injections of morphia (half a grain).

I was at a loss to account for the great pain. The temperature never rose above 100° F., and at first there was practically no swelling of the knee. At the beginning I was inclined to look upon the condition as due to hysteria, knowing the nervous condition of the patient, but it soon became evident that it was a much more serious complication.

For a week I kept her under morphia, and tried all sorts of anodyne applications to the knee, and a couple of large blisters, but she got no relief except with the morphia.

On 1st July labour came on. As she could not be moved without great suffering, I was forced to deliver with forceps under chloroform. Dr. Douglas kindly assisted me. The child, a female, was alive. While she was under chloroform, I punctured the knee-joint with a hypodermic syringe. Nothing came from the outer side, but from the inner I got a little sero-pus. As we were anxious to get some of the pus for culture, we delayed opening the joint until the morning. At the time of delivery her temperature was 99° F.

With Dr. Douglas' assistance, a free incision was made into the joint on the inner and outer sides, and a drainage-tube passed through. There was considerable tension in the joint. Some of the fluid was collected in sterilised tubes. There was very little pus. Dr. Leslie Buchanan kindly examined the fluid. He found staphylococci in it, but no streptococci.

Some days before this I had come to the conclusion that the case was one of gonorrhœal rheumatism. Gonococci were not found in the cultures, but the diagnosis was confirmed by the child developing ophthalmia neonatorum of a virulent type. The pus from the eyes showed diplococci.

On the evening of the day on which the knee was opened the temperature rose to 104°, and the pulse to 140. The temperature came down to nearly normal on the fourth day, but quickly rose again. On the third day she became maniacal, and was very restless for about twenty-four hours. By this time a punctate rash had developed over both wrists, and she complained of pain in the right one. It was never so painful as the knee, nor was it swollen. There was no distension of the abdomen, nor pain over the uterus.

The treatment adopted was free stimulation and quinine, with hypodermic injections of morphia to relieve the pain.

She went from bad to worse, and died on the 6th.

The baby's ophthalmia was very troublesome, but it ultimately yielded to applications of protargol.

I was very much struck by certain well-marked features in this case. In the first place, there was the sudden onset. The patient was feeling much as usual in the evening, and was out shopping. The intense pain seized her on the way home, and she had great difficulty in getting up stairs. The pain was very intense, and yet there was no great febrile disturbance, neither was there any marked swelling or redness of the knee, as one would expect in such an acute case. The only drug which had any effect in relieving the pain was morphia, in half-grain hypodermic doses. This, of course, is characteristic of gonorrhœal rheumatism.

There must have been a mixed infection in the case. Staphylococci were found in the fluid from the knee. I am not sure that gonococci will set up septicæmia. I have seen a good many cases of confinements with gonorrhœa where there was no septic infection.

There is no doubt that the patient died of septic poisoning. The rash which appeared was a typical septic one.

I have been fortunate or unfortunate, according to the view you take of it, in having to deal with some terrible complications in labour and the puerperium, but I think this was the worst case I have yet met with. The sufferings of the patient were so great that I must confess I was not sorry when death put an end to them.

That this was a case of gonorrhœal rheumatism I think there can be little doubt. When she was infected I cannot say, but as none of her other children had shown ophthalmia, it must have been since their birth. I did not like to question her husband on the matter, and therefore cannot say whether or not he has had the disease.

I am deeply indebted to Dr. Carstairs Douglas for his assistance and advice in the case, and also to Dr. Leslie Buchanan for the trouble he took in examining the pus from the knee and from the child's eyes.

Dr. G. Balfour Marshall said this was a very interesting case, and as there was no evidence of infection by the genital tract to account for the septicæmia, it was most probably a case of autoinfection. This was borne out by the fact that staphylococci were found in the knee, being a case of mixed infection. It was a remarkable fact that although gonorrhœal leucorrhœa was not infrequent in pregnancy and the puerperium, yet the patient escaped getting septicæmia from this source.

Dr. Carstairs Douglas said he had been associated with Dr. Jardine in this case, and had been much struck by the virulence of the attack. He thought it probably due to a mixed infection, but where the staphylococci in the knee-joint gained ingress he could not say. The uterus remained normal. Had the statement that gonococci were absent in the knee-joint rested solely on the fact that no growth was got of them from the inoculated culture tubes, it might have been open to criticism, since gonococci do not grow on agar and gelatine, but films were made direct from the fluid as well and stained, and the organism proved to be absent.

III.—A PURE MILK SUPPLY: VISIT TO A HYGIENIC DAIRY FARM NEAR TORONTO.

By Dr. Jane Buchanan Henderson.

In March, 1900, Dr. Carstairs Douglas read a paper on the "Sterilisation of Milk," and a discussion followed. It is not necessary on this occasion to repeat the reasons then given for considering milk and its treatment as a subject suitable to bring before this Society. The following remarks are simply offered as an addition to the discussion then begun.

The Deutonia Dairy Farm is situated a few miles beyond the municipal boundary of Toronto, Canada, and is the private property of the Messrs. Massey, the two gentlemen who are at the head of the great firm of manufacturers of agricultural implements in Toronto known as the Massey-Harris Coy. I understand that the farm originated in an endeavour to secure pure and trustworthy milk for the members of their own families. Owing to the success that has accompanied this experiment, a company has been formed to secure control of the milk supply of Toronto, and to provide the city with untainted milk. Mr. Massey happened to be about the farm at the time when my visit was made, and, although I was a perfect stranger to him, he very kindly took the trouble to point out many of the details which might otherwise have escaped observation.

The byres are well built, and kept thoroughly clean and well ventilated, so as to be practically free from the heavy smell usually associated with such places. They are built on the slope of a hill, and the four floors have each a roadway leading right in, thus saving much trouble, and at the same time keeping everything very compact.

The herd is composed of about thirty to forty Jersey cows, and twelve to fourteen Ayrshires. Each cow is submitted to the tuberculin test before being admitted to the herd, and at frequent intervals afterwards. They are thoroughly groomed twice a day, and, if necessary, they receive special cleaning just before being milked.

The milkers are all men of sound bodily health; even their teeth are inspected, and have to be kept in good order and well brushed. The men are instructed to wash their hands thoroughly before beginning to milk, and if they have been at any specially dirty work they are to take a complete bath, convenience for this being provided at hand. They are also to put on clean white overalls.

The milking pails have the top covered over for three-fourths of the extent, the remaining one-fourth being filled in with a lid which is in reality a very fine sieve, through which the milk falls and is strained as it comes from the cow. This prevents any flies, hairs, or solid particles from falling into the pail. The milk from each cow is weighed on each occasion, and a record of the amount is entered in a book kept for the purpose.

A bacteriological filter is freshly prepared at each milking time. This consists of a thick layer of sterilised wool between two layers of sterilised muslin. This is placed over the receiver and held firmly in position by means of a closely fitting metal hoop, and all the milk is passed through this filter.

The milkhouse or dairy is kept with the greatest possible care. Absolutely no visitors are permitted to enter it, nor any of the ordinary workers about the place, but just the head dairyman. A full view of the interior and of all that goes on within can be obtained through large plate glass windows. There are double doors at the entrance, and the outer one is to be closed before the inner is opened, thus preventing a direct entrance of air and dust. The floor is of smooth asphalte, the walls white and glazed, the tables of glass or slate, and the fittings of metal, the receiver for the milk being of white enamel. It can be sterilised with hot steam daily, and everything has been done to secure, if possible, absolute surgical cleanliness and asepsis.

The dairyman has passed through a course of training at an agricultural college, and holds a certificate to that effect. Before entering the milkhouse he has to put on a white sterilised suit, which is kept in the steriliser when not in use. If, on a rare occasion, he requires any assistance in the milkhouse, the assistant must also wear a sterilised suit.

The bottles hold one pint. They are made of clear glass, and slope gently to the neck without shoulders. The mouth is about an inch and a half in diameter, and by a simple but ingenious contrivance they can be filled four at a time. When they return empty from the city, they are placed at once in the steriliser. They are then thoroughly washed out and sterilised a second time before being used.

The milk, after being strained, weighed, and filtered, is poured into a tube which leads through the wall into the milkhouse. It then passes over tubes filled with ice-cold water, and its temperature is thus rapidly reduced to 40° F. with the object of inhibiting the growth of any organisms that may be present. It falls into the large white enamelled receiver, and can there remain for a few minutes till the bottling process begins. The full bottles are placed in an ice chamber till they are distributed. Separators are used when required, but, as a rule, the milk is distributed with all its cream, which forms a very thick layer occupying a considerable proportion of the bottle; it seemed, indeed, as if the upper third of the bottle, which is, of course, the narrower part, was occupied with the cream. The milk drawn from the cows in the afternoon is distributed in the city the following morning, and remains sweet and unaltered for several days, even in the hottest weather. With the skilful planning of the building, and the use of labour-saving appliances in every direction, the elaborate proceedings already described are carried out with the greatest ease and speed, and the bottling process can be begun within a very short time after the milk has been drawn from the cow.

The theory which underlies all these elaborate precautions may be explained in a few words. The milk of healthy cows may be considered practically sterile when it leaves the udder, but it is liable to contamination from many sources, and, under the ordinary conditions, it usually receives a plentiful supply of more or less harmful organisms—in fact, it has been calculated, as a result of experiment, that "3,250 bacterial germs per minute may be deposited on an area equal to the exposed top of a ten-inch milkpail" (*vide* Newman, *Bacteriology*, p. 185, quoted from Russell). These germs find a most suitable culture medium in milk, especially during the slow process of cooling as it naturally takes place. In the methods already described, every effort is made to secure (1) that the milk is from healthy cows; (2) that risks of contamination may be reduced to a minimum; (3) that any intruding germs may be removed by filtration; (4) and that any germs that have managed to retain their place will not have a favourable temperature in which to grow and increase; and (5), lastly, that the milk will not receive any fresh contamination before it reaches the consumers. No thermic or chemical means are used in connection with the milk, asepsis rather than antisepsis being the point aimed at, and I think that we cannot fail to admire the exactitude of detail with which this is carried out, and so contrast it with the methods to which we are accustomed.

Dr. Carstairs Douglas said he thought the idea of keeping the milk pure by means of an aseptic system was a good one, and could not be open to any of the objections urged against the treatment of milk by chemical or thermal means. He pointed out that the Canadian standard, as regards quality of milk, was distinctly higher than that accepted in this country by the Inland Revenue Department.

Dr. Marion Gilchrist asked Dr. Henderson if she knew how the tuberculin test was regarded, and how it was carried out in Canada. Here it was asserted by many that it tended to predispose the animals so tested to tubercular disease, and it further lent itself to fraud, as unscrupulous dealers took advantage of the fact that tubercular animals after being once tested would not react a second time to the test. She also asked if a higher price was asked and obtained for this milk, as no doubt milk treated similarly in this country would cost more. Heating the byres artificially costs too much, and since warmth is essential, the byres are kept closed instead of being aired, as this would cool them down, and the cows not give such good and rich milk. She further asked if the bacteria which produce lactic acid were excluded, as it might interfere with the making of lappered or sour milk, which is quite a good food. She believed that lactic acid, formed by these bacteria, interfered with, or in some way destroyed, the power of other germs, and cited a case where butter milk sold from a farm where scarlet fever existed did not carry infection anywhere.

Dr. J. Edgar made a few remarks, and referred to Döderlein's bacillus vaginæ, which produces lactic acid, and is said to prevent pathogenic organisms developing. This may be analogous to the case of the lactic acid bacillus aiding in keeping milk free from other germs.

Dr. Henderson replied, and said that the milk had been distributed in bottles for six years. Mr. Massey conducts this dairy farm, and has arranged it regardless of cost, as he is a wealthy man. The method is not available for ordinary farms, so a company is to be formed to treat milk in large quantities. The afternoon's milk is distributed next day, but it will remain sweet for several days. The cows are supposed to be all free from tuberculosis, and therefore there are no bacilli to exclude. The new company is, however, to have a laboratory to test milk bacteriologically. The price is dearer.

IV.—CASE OF HYDROPS AMNII WITH TWINS SIMULATING PAROVARIAN OR OVARIAN CYST.

By Dr. John Edgar and Dr. A. W. Russell.

The relative frequency of hydrops amnii or polyhydramnios as a phenomenon of pregnancy is given as 1 in 150, but the combination of circumstances of the case to be described to-night must be of very rare occurrence. The patient, a thin and pale, but otherwise healthy woman, of 27 years of age, was sent to consult Dr. Russell about a fortnight ago, owing to a large cystic abdominal swelling, which had grown rapidly, and was now interfering so seriously with respiration that rest and sleep were impossible except in the sitting posture. She had been married four years and eight months, and was the mother of three children. She had not menstruated since marriage, her second and third pregnancies having taken place during lactation. During her third pregnancy, at the end of the third month, she had a severe hæmorrhage, and a mass like a large clot was discharged, which was believed to be an ovum. Under treatment the hæmorrhage was arrested, and in the end of January, 1900, she was delivered of a healthy child at full term. She ceased nursing this child in the end of December, because, owing to the abdominal enlargement, she thought she was again pregnant. In examining her a fortnight ago, Dr. Russell found the abdominal swelling extremely prominent and tense, considerably larger than a gravid uterus at full term, the wall very thin and the contents very fluid, the "thrill" being well marked over the whole surface. The percussion note was uniformly dull excepting on the flanks. The cervix was much softened, and the os uteri was patulous. The uterus was more easily traced upwards on the left side. The prominence of the abdomen had been observed only about the beginning of December, and the patient then thought that she must be again pregnant. The opinion was given that there was a large parovarian cyst complicating pregnancy.

Owing to the urgency of the symptoms the patient was admitted into the Samaritan Hospital on 5th March, where she was afterwards examined by Drs. Edgar and Tindal. In addition to the facts already stated, it was noted that a distinct uterine souffle was occasionally heard, but the fœtal heart could not be distinguished. The circumference at the level of the umbilicus was 41¼ inches. The nymphæ were œdematous. The vaginal portion of the cervix was sinistroposed, the membranes now bulged downwards to the level of the external os, and ballottement was distinct. The uterus seemed to be displaced to the left, but no distinct lower limit could be assigned to the tumour. It was still believed to be a cyst of ovarian or parovarian origin. On 9th March, as the membranes were dilating the cervix, Dr. Edgar decided to empty the uterus, and a small opening was made to allow the fluid to drain away. It was then apparent that it was a case of polyhydramnios, and that there were twins. After removal of the placenta and membranes, a hypodermic injection of ergotinine was given, as well as an intra-uterine douche at 120° F., and a tight binder was applied. The patient made a good recovery without hæmorrhage or other untoward incident. The twins were males, at about six months, and well formed. One measured 11½ inches in length, and was living at birth; the other was a little larger, measuring 11¾ inches, and had evidently been dead for a short time. There were two distinct cords and two separate placentæ, fused at the adjacent edges. The separate sacs were composed of amnion only, the layer of chorion and decidua forming a common covering to the two amniotic sacs. The sac that contained the excess of fluid was occupied by the dead child, and the cord of this child was also much thickened and congested. The fluid measured 16 pints. Dr. Carstairs Douglas kindly examined it, and described it as practically colourless, faintly translucent, odourless, with a specific gravity of 1007, and alkaline reaction. Serum-albumin was present, and there were traces of serum-globulin, but no albumoses, or peptones, or glucose, or met-albumen. Urea was present in small amount. The total proteids amounted to 0·1 per cent. Chlorides were abundant, and phosphates scanty, and there were traces of sulphates. Under the microscope there were seen epithelial cells and fine *débris.*

V.—CASE OF ANUS VULVALIS (PERSISTENT CLOACA) WITH PROLAPSE OF UTERUS.

By Dr. John Edgar.

Dr. Edgar's paper will be found as an original article at p. 407.

Dr. A. W. Russell said that he had seen a somewhat similar case some years ago. The patient was a young woman who had come into the Samaritan Hospital to be operated on by

Dr. Stuart Nairne before getting married. The anus opened in the fossa navicularis, while the usual site was indicated by a pigmented spot. Dr. Nairne split up the perineum, dissected out the anus and adjacent portion of rectum, and carried them back to the proper position, afterwards stitching the perineum over it. The operation was admirably designed, and the result was very successful.

Dr. John Lindsay said these two cases represented two different types. The second case had a pigmented spot, and was one of atresia ani, with an opening of the bowel into the uro-genital sinus. The pigmented spot would have the sphincter ani under the skin, and therefore Dr. Nairne's operation would be the correct one. Dr. Edgar's case, on the other hand, would have the sphinter ani present at the opening in the vulva, and therefore he operated in the best way.

VI.—CASE OF RESECTION OF THE SIGMOID FLEXURE.

By Dr. John Edgar.

Mrs. M'I., æt. 28, ii-para, was admitted into the Samaritan Hospital on 28th January, 1901, complaining of constant pain in the left iliac region of seventeen days' duration.

Married five years ago, she enjoyed good health until her first confinement a year later, when she began to suffer from pelvic inflammation and vesico-vaginal fistula. She was treated in the Victoria Infirmary, but the fistula reappeared during her next pregnancy a few months afterwards. It healed spontaneously six months after the birth of the child. During the last twelvemonth patient has had three abortions. The last occurred four weeks before admission, and was followed by "a cold in the left lung." On 11th January there was a sudden onset of pain in the left iliac region. This pain continued until admission on the 28th. There was no bleeding.

On bimanual examination the uterus was found to be normal in position, and only slightly enlarged. A firm, smooth, lobulated, and well-defined mass was felt adherent to the left side of the cervix above the corresponding lateral fornix. It could be moved slightly upwards and downwards in unison with the uterus. The corpus uteri, however, was free. The left ovary could not be differentiated, but the right one was normal in size and site.

Operation (on 9th February, assisted by Dr. Russell).—On opening the abdomen I passed my fingers down into the pouch of Douglas, and managed without much difficulty to separate the mass from its attachment to the cervix. I was surprised, on bringing it into view, to find that it was a tumour of the mesocolon of the sigmoid flexure. It was solid, and of the size of a plum. We could not be certain at the time as to its nature, but thought it most likely tuberculous. As, however, there was some doubt concerning this matter, and as it lay close up against the bowel, I thought it right to resect the bowel and mesocolon. Dr. Taylor, my house surgeon, clamped the gut with her fingers on each side, and I cut away the tumour with the adherent portion of the sigmoid flexure. After tying several vessels and suturing the mesocolon, I stitched the cut ends of the bowel together with fine silk, after Czerny's method.

The patient made an uninterrupted recovery. She felt no pain after the operation, nor was there at any time abdominal distension or sickness. The temperature never rose above 99° F., and the pulse ranged from 70 to 80 per minute. The bowels moved regularly and easily from the sixth day after the operation, and the abdominal wound healed by first intention.

Dr. Galt, pathologist to the hospital, has reported that, histologically, the tumour is of a tuberculous nature.

The points of interest in this case are as follow:—

1. The spontaneous healing of the vesico-vaginal fistula.
2. The pelvic situation of the tumour, which, with the history of pelvic inflammation, led to the probable diagnosis of left salpingo-oöphoritis.
3. The consistence, lobulated shape, firm attachment to the uterus, and the freedom of the right appendages, might have tended to the diagnosis of uterine myoma, had the history not negatived this.
4. The tuberculous origin of the tumour. No tubercle could be detected anywhere else, and there was nothing in the general condition of the patient—no hectic night sweats, &c.—to lead one to suspect a tuberculous lesion.
5. The success of the end to end suture of the bowel by Czerny's method. Where speed is not absolutely required, I think this method is preferable to the use of Murphy's button.

GLASGOW EASTERN MEDICAL SOCIETY.

SESSION 1900-1901.

MEETING VI.—16TH JANUARY, 1901.

The President, DR. DAVID YOUNG, *in the Chair.*

SOME PHASES OF APPENDICITIS.

BY PROFESSOR MACEWEN.

In beginning his address, Dr. Macewen, in referring to the symptoms of appendicitis, gave details of two cases where the symptoms appeared suddenly in men who previously had never apparently had any illness. In both cases the appendix had been found gangrenous, and perforated within thirty hours of the onset of symptoms. From the appearance of the lesions found in these cases there was no doubt that the appendicitis had been of long standing, but so very insidious that it had never caused any definite symptoms. Other cases were described, where the patients had had several attacks before perforation occurred.

In discussing treatment, Dr. Macewen said he doubted very much the statement that 95 per cent of all cases of appendicitis recover without surgical treatment. He did not believe they do recover; the acute symptoms pass off, but they are not really cured. It would be interesting, he thought, to see the condition of the appendix—the lesion would still be there.

As regards the risk of operating, he pointed out that the removal of the appendix during the quiescent period, after an attack of appendicitis, is a totally different operation from that where the whole abdominal cavity has become infected from perforation of the appendix.

In the treatment of cases where the symptoms are not so acute as to demand immediate operative interference, the treatment adopted is, first of all, to have the bowels cleared by enemata; no purgative to be given till the colon is free. Castor oil, in teaspoonful doses, is given afterwards, till there is a slight motion from the bowels. If it was found that the tumour was reduced and the tumescence had disappeared, he was prepared to wait till there was no swelling, and till the colon was in as normal a condition as possible. He did not advocate the use of saline purgatives, but agreed with the author of this treatment, so far, that it may alleviate the condition till the acute symptoms pass off. In referring to the advisability of deferring operation until the acute attack had passed, he mentioned that, in operating in cases where there were no inflammatory symptoms, he had had no deaths.

The operative treatment in acute and chronic cases was described, and cases related where, after sloughing of the appendix with infection of the general abdominal cavity, operation had been followed by complete recovery. The mortality in these perforative cases was very great, but if the case was got just after the occurrence of perforation, the outlook was very hopeful. He considered it to be our duty to operate in these cases; we must not allow a statistical conscience to interfere.

In regard to the locality where appendicitis shows itself, American surgeons, he said, have been very dogmatic as to M'Burney's point. The lesion might, however, be found over other situations. The appendix is frequently found between the ribs and the crest of the ilium; it is also found on the left side and in the pelvis, where it is very apt to be overlooked. Instances of cases of this nature were given. In some cases of slight forms of indigestion, where the patient was losing weight, Dr. Macewen had found the appendix kinked and slightly inflamed. After the removal of the appendix, the patients had been found to improve greatly and to gain in weight.

The appendix has been thought by many to be a useless organ, but Dr. Macewen did not hold that opinion.

Dr. Knox thoroughly agreed with Dr. Macewen as to the treatment; he did not approve of the saline treatment. Early operation was most important. He had had only one case which recovered without operation.

Dr. J. Lindsay Steven agreed with all that had been said as to the value of surgical treatment, but thought that medical treatment should not be unduly depreciated. He related a case in which he had consented to operation, and in which a perfectly healthy appendix had been exposed, and not excised. The case did well.

On the motion of *Dr. Wm. Patrick*, seconded by *Dr. Wm. Findlay*, Dr. Macewen was awarded a hearty vote of thanks for his address.

MEETING VII.—6TH FEBRUARY, 1901.

The President, DR. DAVID YOUNG, *in the Chair.*

A CHAPTER OF FIELD-HOSPITAL EXPERIENCES IN THE EASTERN TRANSVAAL.

BY DR. JOHN WAINMAN FINDLAY.

Dr. Findlay's paper will be found as an original article in our issue for March, 1901, at p. 161.

Various bullets, shell fragments, and other relics from the war were exhibited.

After congratulatory remarks by *Mr. H. E. Clark* and *Dr. Geo. M'Intyre,* recently returned from the "front," Dr. Findlay was heartily thanked for his interesting paper.

REVIEWS.

The Treatment of Fractures. By CHARLES LOCKE SCUDDER, assisted by FREDERIC J. COTTON. Second Edition. London: W. B. Saunders & Co. 1901.

THE first edition of this work appeared in April, 1900, and the second was issued in January of this year.

Although intended as a "guide . . . in the treatment of the fractures of bone" (*sic*), this idea is expanded so as to include symptomatology and differential diagnosis. The 457 pages of text are illustrated by 611 figures. We find the word "revised" on the title-page, but even bearing in mind the "immaculate" Horace, we are hardly prepared for the number of inaccuracies in the text of the volume under consideration. Some of these we give below, in company with other points that will call for alteration in a future edition.

In the paragraph headed "The Mouth" (p. 35), the subjects of the "ear" and "restlessness" are treated. In the same page we are told that "operative interference is demanded . . . in all compound fractures" of the skull. "The details of operative treatment must necessarily be left out," and so we are in doubt as to whether the author means simply cleansing; if more is intended, we can hardly agree with him. What is meant by "antiseptic and aseptic precautions" might be explained, if explicable, in a foot-note.

The description of the application of Coolidge's nasal splint (p. 50) is almost unintelligible, while on p. 72 we are led to believe that in palpation through the mouth "the cervical enlargement of the spinal cord is more marked than the lumbar swelling"! "Reason" applied to the facts revealed by laminectomy (p. 83) would surely lead any surgeon to open the dura mater.

Distinctly beyond the rules of grammar are such expressions as "the well hand" (p. 107), and "the foot of the injured leg may be touched to the floor" (p. 316).

Wrong references to figures occur occasionally, as on pp. 215 and 245, while Fig. 128 does not tally with the description on the page opposite. No mention is made of bad results from the use of "firm" axillary pad in fracture of the upper end of the humerus (pp. 137 and 140). We find no antecedent mention of the "important difference" between backward dislocation at the elbow and a supracondylar fracture (p. 164). By "internal" angular splint is usually meant a splint applied to the *inner* side of the limb. The prognosis given (p. 186) for fractures of the elbow is very rosy. By "corrected position" (p. 197), does the author refer to supination or semi-supination? The reference (p. 197) to Fig. 261 as "strong supination" is an obvious slip. Then on p. 204 the term "semi-supination" is deserted in favour of "semi-pronation."

With regard to the treatment of fracture of the hip in an elderly patient, the doctrine on p. 267 is dangerous, and in applying extension strapping to the lower limb we would point out that it is not necessary to bandage the foot.

The evil after-effects of pointing of the foot are not mentioned, and the method of slinging the foot shown in Fig. 516 would certainly produce pressure on the heel. The opinion that "a diagnosis of fracture without skiagraphs is always open to doubt" no one will accept. The percentage of fracture of the ulnar styloid in Colles' fracture differs on pp. 232 and 419. In the chapter on the x-rays no mention is made of the possible presence of the *os trigonum tarsi.* The question of localising-apparatus is not taken up, as also the use of the stereoscope in this connection. The volume closes with a chapter on the ambulatory treatment of fractures.

We would note the author's strong recommendation to treating fractures at the elbow in a position of acute flexion. We would have his remark on the necessity of avoiding splint-pressure on the thenar eminence printed in prominent type; we agree with him that the cutting away of the splint, with this object, is of great value.

In the treatment of fractures there are many differences of opinion, but the methods described by the author are, without doubt, sound and practical; the text, moreover, is admirably illustrated by the figures. Many of those are photographs, others are sketches, chiefly tracings of x-rays skiagraphs, and, as one might expect, there is a fair proportion of skiagraphs.

The volume is a handsome one, and may be safely recommended to the reader.

Blood and Blood-Pressure. A Contribution to the Study of the Blood and Blood-Pressure, founded on portions of the Croonian Lectures delivered before the Royal College of Physicians, London, 1896, with considerable extensions. By GEORGE OLIVER, M.D. Lond., F.R.C.P. Lond., &c. London: H. K. Lewis. 1901.

DR. OLIVER'S observations on the physiology of the red blood-corpuscle and of blood-pressure, and the ingenious instruments devised by him, are doubtless familiar to many through the reports in the medical journals of his Croonian lectures. Since the publication of these reports, he has devoted much time to the amplification and testing of previous results—he has made some 40,000 observations for determining the physiological and clinical variations in the chromocytes and hæmoglobin—and it can be safely said that the careful perusal of his deductions in this collected form will prove of immense educative value both to students and practitioners. Indeed, the hydraulics of the circulation is, perhaps, one of the most important and yet most generally misunderstood branches of medical science, and whatever renders clearer our understanding of it, or the clinical application of our knowledge more precise, is a distinct boon to all. The instruments employed are the hæmoglobinometer and hæmocytometer for the red blood-corpuscle, and the arteriometer and the blood-pressure guage or hæmodynamometer for the circulation.

Oliver's hæmoglobinometer depends in its action on the principle that depth of colour is proportional to quantity, and differs from the instruments in ordinary use by having doubly transmitted (reflected) light, a pure white background, a standard split up into a series of gradations, and comparison of colour of blood solutions with that of standard in camera. The observations with this instrument are more exact than with older forms of apparatus. His hæmocytometer is devised for rapid determination on the volumetric principle, but standardised by the Thoma-Zeiss enumerator. It depends on the fact that when a candle-flame is viewed through a glass tube containing water, a transverse line of bright illumination is seen, consisting of closely packed images of the flame produced by the longitudinal fibrillation of the glass. When a mixing fluid is added to blood, the mixture presents a certain degree of opacity according to the amount of blood or of the fixing fluid. The opacity shuts from view the line of illumination till the blood is sufficiently diluted. The appearance of the line is a very sensitive indicator of the percentage of the blood-corpuscles. As corpuscles may vary in size or hæmoglobin-content, it should be observed that this instrument really guages the collective volume with a normal standard, and the microscope should be used to note the size of the red discs.

With the help of these instruments many interesting facts have been elicited in regard to the physiological and clinical variations in the chromocytes and hæmoglobin.

Thus, as to posture, the blood of the toes is poorer than that of the fingers as a result of gravity. Passive elevation diminishes the amount of corpuscles, elevation by muscular action increases it; hence the value of passive support of inflamed parts. Exercise appreciably alters the proportion of corpuscles and plasma. Local muscular exercise causes immediate rise in the corpuscles and hæmoglobin; general muscular exercise raises the percentage of corpuscles, but diminishes the hæmoglobin; hence the value of absolute rest in anæmia. The effect of altitude on the number of corpuscles is studied, and it is shown that the increase at high altitudes is due to the low proportion of humidity present in the atmosphere, with consequent increased loss of water from the blood through the skin and respiratory tract. A similar increase in the proportion of corpuscles is found in the low levels, with a dry atmosphere, as in Egypt. The effects of heat and cold are discussed, and clinical variations in the percentage of red discs and hæmoglobin.

In connection with the circulation, the blood-pressure guage is fully described, and the method for using it for measuring the blood-pressure in arteries and veins is explained. The arteriometer measures the calibre of arteries. Observations with these instruments show that the arterial blood-pressure is practically uniform throughout the arterial system, that it is decisively lowered by the arterioles, and probably not decisively reduced by the capillaries, and that the main determinants are arteriolar and cardiac.

Physiological causes of variation in the blood-pressure, arterial and venous, are elaborately discussed, and the results obtained are often novel and of great interest. Their importance can be understood by their mere enumeration, viz., the effects of gravitation, posture, muscular exercise, mental exercise and emotional excitement, fatigue, rest, excitation of respiration and effort, digestion, beverages, temperature, pulse-rate, diurnal conditions. In this connection special emphasis is laid upon the complementary action of the splanchnic and systemic systems. For example, after general exercise the arterial pressure at first rises, the systemic blood being drawn from the splanchnic system, while later it falls from lowered vasomotor tone and dilatation of the splanchnic vessels. Walking exhausts vasomotor tone more quickly and thoroughly than cycling, hence systemic arterial pressure is maintained much longer after cyling than walking, and hence, too, the beneficial effects on gastric and intestinal congestion and catarrh of moderate cycling. Mental exercise, also, raises the blood-pressure by depletion of the splanchnic area; while fatigue, by lowering vasomotor tone, has the contrary effect. Cerebral or muscular exercise, by diminishing the splanchnic area, may, when taken immediately after a meal, prove injurious by counteracting the physiological enlargement of that area necessary to normal digestion. Work lowers vasomotor tone, tea increases it.

The mean arterial pressure is about 100 c.mm. Hg.; the venous, 20 to 30 c.mm. Hg. Numerous data are adduced as to the effects of blood-pressure of altitude, resisted exercises, massage, and baths; twenty-three pages are devoted to the question of baths of various kinds, and deserve special attention. The clinical relation of the arterial blood-pressure to the calibre of arteries and to the size of the heart; the rise of blood-pressure in neurosis, gout, renal disease, heart disease of peripheral origin, irritable skin affections, anæmia, obesity, and endarteritis; and the results of vasomotor ataxia, with splanchnic stasis, are discussed, but can only be mentioned here. Enough, however, has been said to show that a decisive advance has been made in this chapter of medical science, and that the author is justified in his remark that he could not discontinue the use of his methods and instruments without experiencing the loss of an acquired power. The book is suggestive, it affords a guide to the solution of numerous physiological and clinical problems, and can be confidently recommended as valuable and instructive.

An American Text-Book of Physiology. Edited by WILLIAM H. HOWELL, Ph.D., M.D. Second Edition, Revised. Vol. I: Blood, Lymph, and Circulation; Secretion, Digestion, and Nutrition; Respiration and Animal Heat; Chemistry of the Body. London: W. B. Saunders & Co. 1900.

THIS text-book is designed to be a repository of the important facts and principles of physiology, and to embody, as far as possible, the recent discoveries and tendencies which have characterised the history of this science within the last few years. To attain to thoroughness and accuracy, the principle of collaboration has been adopted, so that each author, owing to the less voluminous literature to be consulted, has been enabled to base his elementary account upon a comprehensive knowledge of the part of the subject assigned to him. At the same time, it is emphatically a student's book, not an encyclopædia, and, while there may be a slight overlapping occasionally, this is rather an advantage than otherwise, as enabling us to study the science from slightly different standpoints. The discussion may not be so ample as in Schäfer's text-book, but it is sufficient to give a fair statement of the present state of physiology, while the numerous bibliographical references facilitate the consultation of monographs and authorities where the fullest information may be obtained. To suit the student's convenience the work has now been divided into two volumes, and while the amount of matter is practically the same, it has been thoroughly revised, the section upon the central nervous system has been recast, and a short section added upon the modern ideas and nomenclature of physical chemistry, with reference especially to the processes of osmosis and diffusion.

A full table of contents has been added to each volume, the index enlarged, and numerous new figures introduced.

The general introduction, and the chapters on blood and lymph, have been contributed by the editor, while the mechanics of the circulation have been dealt with by Curtis, and the innervation of the heart and blood-vessels, and the nutrition of the heart, by Porter. Howell also contributes the chapters on secretion, digestion, nutrition, and the movements of the alimentary canal, bladder, and urethra. Respiration and animal heat have been assigned to Reichert, and the chemistry of the body to Lusk. The list of names is sufficient guarantee for the excellence of the work. The second volume is not yet to hand.

Medical men, however busy they may be, will derive pleasure and profit from the perusal of such a book as this. They will see how the conceptions of even a few years ago have to be modified and enlarged, how the general picture, so to speak, is being made more accurate by the accumulation of detail, and how markedly the principles and practice of medicine are affected by our more intimate knowledge of the functions of the various organs, and the tissue changes as viewed in the light of modern chemistry. Those acquainted only with the older standard text-books will be especially struck with the number of new names cited as authorities, for while German investigators, perhaps, have most frequent mention, we find as well representatives of all the great European states, of America, and Japan.

It is practically impossible to enter into a detailed analysis of the book, as every paragraph bears more or less evidence of careful study, and the practitioner in doubt will turn to the particular section he wishes to study. It will be noted with interest that with increased chemical knowledge, the vitalistic swing of the physiological pendulum begins to abate, and physio-chemical theories find more support. Thus, on p. 75, we find it summed up that in spite of the very valuable work of Heidenhain, which has added so much to our knowledge of the conditions influencing the formation of lymph, the existence of a definite secretory activity of the endothelial cells of the capillaries has not been proved. Again, with regard to respiration, on p. 419, we have the guarded admission that, until we are in possession of the results of further research, we are justified in the belief that the interchange of O and CO_2 between alveoli and blood is due to physical and chemical factors, diffusion being most important, and that it may be possible that the living tissues take some active part. In like manner, speaking of absorption, on p. 28, "most physiologists probably believe that further experimental work will bring this phenomenon out of its obscurity, and show that it is explicable in terms of known physical and chemical forces exerted through the peculiar substance of the absorptive cell."

In the chemical section, Fischer's exposition of the carbohydrates is given, and his theory of the purin bodies merits attention, the purin derivatives numbering many hundreds, of which about a dozen are known to have physiological significance, all true nucleins yielding one or more of the purin bases. The clinical significance of the theory arises from the relationship of the nucleo-proteid to urea and uric acid, and to alteration in metabolism as in gout and rheumatism.

Epinephrin, the active principle of the suprarenals, has been separated by Abel, and the sulphate of epinephrin has such physiological power that 0·000018 gram per kilo of dog causes a sharp rise in blood-pressure, and it may, as Schäfer has shown, become one of our most powerful hæmostatics. Lichenfeld has described a synthetically formed proteid and a cogulable proteid formed from the same by addition of formic aldehyde, and, as Lusk remarks, while these substances are probably not native proteids, they furnish indications of lines of attack for the future mastery of proteid synthesis, which in time is sure. Reasons, too, have been brought forward for belief that glycogen in liver cells and HCl in gastric juice do not exist free as such, but in loose chemical combinations with other substances. We notice on p. 196 a statement open to misunderstanding, viz., "The vaso-constrictors are less easily excited than the vaso-dilators." This does not agree with the subsequent assertion that the simultaneous and equal stimulation of the dilator and constrictor nerves going to the submaxillary glands causes vaso-constriction, dilatation appearing after the stimulation ceases. Among diagrams of new instruments or methods may be noticed the differential manometer (p. 131), Williams' apparatus for frog's heart (p. 188), and Hering's device to ilustrate the influence of respiratory movements upon the circulation. Of the histological diagrams, that of the ducts and secretion capillaries to parietal cells of the glands of the fundus of the cat's stomach (p. 238) is noteworthy, as showing that the border-cells have a system of secretion capillaries of their own, resembling in this respect the demilunes of the mucous salivary glands. Much space for physiological discussion is gained by the elimination of almost all anatomical diagrams and descriptions, and the inclusion only of such histological details as seemed necessary for exposition.

The general get up—printing, binding, and paper—are all that could be desired; indeed, the glazing of the paper, while giving very clear type impression, is almost too high from the strength of the reflected light. The authors have produced a most valuable book, giving a reliable conspectus of the present position of physiology, and taking rank with the best.

The Extra Pharmocopœia. By W. MARTINDALE, F.L.S., and W. W. WESTCOTT, M.B. Lond. Tenth Edition. London: H. K. Lewis. 1901.

THE tenth edition of this well known and very useful compendium needs no lengthened reference. Its popularity is great; and in the present edition the authors, from a pharmaceutical point, have made a careful study and analysis of all the recent literature and the latest editions of pharmacopœias, so as to give their readers a fair review of the condition of pharmacy and therapeutics at the present time.

A Handbook of Materia Medica, Pharmacy, and Therapeutics. By SAM'L O'L. POTTER, A.M., M.D., M.R.C.P. Lond. Eighth Edition, Revised and Enlarged. London: Rebman, Limited. 1901.

THE eighth edition of this popular American text-book needs little more than mention here. It is only some fourteen years since the work first appeared, so that the author has good reason to be gratified by the reception that has been accorded to it. After an introduction, which includes an alphabetical classification of medicines, the subject of materia medica and therapeutics is considered in Part I, the arrangement here again being alphabetical. Part II is on pharmacy and prescription writing. Part III is on special therapeutics, including applied therapeutics, the latter following the alphabetical arrangement of the names of diseases. An appendix furnishes us with a variety of information, as, for instance, the formulæ of proprietary medicines. The book should prove to be very serviceable both to practitioners and to students.

Burdett's Official Nursing Directory. 1901. Fourth Year. London: The Scientific Press, Limited.

THIS work appears now for the first time in the form simply of a directory. Heretofore the directory has been part of a larger volume which included, in addition, a detailed account of the principal nurse-training schools in Britain, the Colonies, and the United States. For some years, however, the latter portion has been published separately under the title of *The Nursing Profession*, and now the *Directory* also appears separately, and, of course, in a more compact and inexpensive form.

Report of the Anæsthetics Committee of the British Medical Association. July, 1900.

THIS Report inevitably brings to mind the old familiar fable of the "Mountain in Labour," and the very inadequate product which resulted. The committee has taken the very respectable period of nine and a half years to its investigations, and has with commendable patience and industry passed under review the details of 25,920 administrations of anæsthetics. Yet we do not find in the Report any new fact or any essentially important conclusion. We cannot but acknowledge the immense amount of labour expended on the production of the Report, and the ingenuity employed in the manipulation of the facts and figures, so that no point has been left out of consideration. We have emphasised, once more, the enormously greater danger attending the administration of chloroform than that of ether. Thus, the figures work out for chloroform at 0·582 per cent, and for ether at 0·065 per cent, while the A.C.E. mixture occupies an intermediate position with a danger-rate of 0·147 per cent. It will be noted that we are not speaking of mortality, but of "cases of danger (including deaths) considered to be due entirely to the anæsthetic." An interesting point brought out in the Report is that when A.C.E. was followed by chloroform the danger-rate rose to 1·694 per cent, and when ether was followed by chloroform to 2·2 per cent. We suspect that there is a fallacy here, for the fact that a change was made probably indicates that the patient was not taking the first anæsthetic well, and it is likely that in all the cases there were indications of danger before the change was made. In regard to the employment of inhalers for the exhibition of chloroform, the natural conclusion is arrived at that the open methods are by far the safest, and that the use of Allis's inhaler adds very materially to the risk the patient runs. The details of cases show how largely the complications were due to faults of administration, and especially to incomplete anæsthesia, resulting in irregular or obstructed respiration, vomiting, muscular rigidity, &c.

This leads the committee to formulate as their general conclusion the postulate, "From the evidence before the subcommittee, they are convinced that by far the most important factor in the safe administration of anæsthetics is the experience which has been acquired by the administrator." This is, no doubt, an important conclusion, but it lacks the charm of novelty, and we doubt if it was worth while for the committee to sit for nine and a half years to hatch so obvious a platitude.

A Practical Treatise on Genito-Urinary and Venereal Diseases and Syphilis. By ROBERT W. TAYLOR. Second Edition, thoroughly Revised. London: Henry Kimpton. 1901.

IN this volume we have a most readable exposition of the subject. At the present time one is often appalled at the mass of so-called literature which is poured on us. This is particularly the case with regard to the "specialties" of medicine, and our Transatlantic cousins are far from guiltless in this respect. The volume before us, however, is an example of what a medical book should be. It is full of reliable information set forth in an easy and attractive style, and it marks its author as a man of thought and of judgment.

Dr. Taylor's aim has been to present the reader with an "up to date practical and compact treatise," avoiding the "tediousness of an encyclopædia and the disappointing brevity of an epitome," and "written in a terse and clear manner."

The practitioner and student need only to read the book to find that the author has succeeded in accomplishing his aim.

Verhandlungen der Berliner Medicinischen Gesellschaft aus dem Gesellschaftsjahre, 1900. (Proceedings of the Berlin Medical Society, Session 1900.) Berlin: L. Schumacher. 1901.

IN this volume we have a record of the proceedings of the Society from January to December, 1900. These *Proceedings* are reprinted in book form from the *Berliner Klin. Wochenschrift*, and form a handy collection of papers and communications on many different subjects in the various departments of medicine and surgery.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

MEDICINE.

By WALTER K. HUNTER, M.D., D.Sc.

A Case of Chorea Electra Treated and Cured by Respiratory Exercises. By Professor Pitres (*Jour. de Méd. de Bordeaux*, 17th February, 1901).—The patient, a lad aged 20, was first seen in January, 1900, on account of a very intense generalised tic, accompanied with a noisy respiratory spasm. These symptoms appeared when the boy was 9 years old, and were thought to be the result of a fright that he got about that time. He improved somewhat under treatment, but the movements never entirely disappeared. At the age of 17, and without any known cause, he got much worse, and remained so till he came under the observation of Dr. Pitres. On examination, the seizures were seen to consist of convulsive spasms, which affected the head, body, arms, and legs. They came on suddenly, and seemed just as if provoked by an electric shock. Their frequency varied from day to day, the range being from one to twenty per minute. Sometimes there would be a series (five or six) of jerks in rapid succession, and sometimes only one jerk. Sometimes the head only was affected, but more often the limbs were also involved. Each seizure was accompanied with a hoarse, involuntary cry, or sometimes by a stifling guttural sound. All movements ceased during sleep, and they were most violent when the patient felt himself to be under observation. They lessened when he lay down, when he read in a loud voice, or when he sang; and the modifying of the rhythm of his respirations, that is, breathing more slowly or more quickly, rendered the spasms much less violent and much more rare. It was this observation that led to the subsequent treatment.

The spasms hindered to only a slight extent voluntary movement, and the patient could feed himself, and could even write fairly well. These voluntary actions had, of course, to be carried on during the intervals between the spasms.

Attempts were made to hypnotise the patient, but with no result, and so this method of treatment gave place to the respiratory exercises. The patient was made to stand with his back against the wall, breathing deeply, and, at the same time, raising and lowering the arms with inspiration and expiration. This went on for six months at a time, and three times a day. Within a month the patient was greatly improved, and in nine months the spasmodic seizures had entirely disappeared.

Myeloplasts in the Blood in a Case of Leucocythæmia.—M. Cornil reports the following observation in *Bul. de l'Acad. de Méd.*, 6th November, 1900:—

The nature of the disease had not been diagnosed during life, but at the *post-mortem* examination the microscopic investigation of the blood revealed the presence of a considerable proportion of myeloplasts. These were cells of very large size, usually with several nuclei, and corresponding in every respect to the myeloplasts (myeloplaxes of Robin) as found in bone-marrow. Besides these were seen considerable numbers of ordinary myelocytes. These myeloplasts were found in the vessels in sections of the liver and spleen, but not in any of the other organs of the body, except the bone-marrow, where they were collected together into little islands placed in the midst of various other forms of myelocytes.

Osteo-arthritis and Hypertrophic Cirrhosis of the Liver.—M. Parmentier and M. Castaigne reported to the Société Médicale de des Hôpitaux a case of hypertrophic cirrhosis of the liver complicated with osteo-arthritis. There was enlargement of the liver and spleen, jaundice, clay-coloured stools, and digestive troubles. There was no cardiac, pulmonary, or renal lesion. The fingers and toes showed the spindle-shaped enlargement, and the wrists, ankles, and knees were also involved. The authors consider the joint condition secondary to the cirrhosis of the liver, but they can give no explanation of the relationship.

In discussing the case, Dr. P. Marie said that he had seen a considerable number of cases of osteo-arthritis occurring in patients with cirrhosis of the liver, but in certain of these cases there was also some pulmonary lesion, and he considered that the cause of the joint condition. He would not deny, however, that the hepatic condition might play a part in the production of the osteo-arthritis.—(*Le Prog. Méd.*, 30th March, 1901.)

Hæmatemesis as a Symptom of Appendicitis.—At a meeting of the Académie de Médecine on 12th February, 1901, M. Dieulafoy made some interesting observations in regard to hæmatemesis occurring in the course of cases of appendicitis. He says that the hæmatemesis is due to ulceration of the stomach caused by a general toxic infection. It is a very grave symptom, and one which is also met with in some cases of strangulated hernia. From this point of view, then, appendicitis is not a purely local affection, and peritonitis is not the only complication that one has to fear. M. Dieulafoy has seen several cases of appendicitis where there has been no peritonitis, but where the patients have succumbed to a general intoxication. Such general infections show themselves as gangrene of the lung, as abscess in the liver, malignant jaundice, meningitis, or as ulcer of the stomach with its accompanying hæmatemesis. These complications must be thought of in considering the treatment of appendicitis.—(*Le Prog. Méd.*, 16th Feb., 1901.)

Certification and Classification of "Diarrhœa" Deaths (reprinted from *Public Health*).—This pamphlet comprises a paper entitled, "A Plea for Uniformity in the Classification of Diarrhœa Deaths," by Dr. Alfred Ashby, Medical Officer of Health of Reading, and reports of committees of the Home Counties Branch of the Incorporated Society of Medical Officers of Health and of the Royal College of Physicians, specially appointed to deal with the matter. Dr. Ashby gives specific instances which illustrate the importance of precision and uniformity in recording the cause of death, especially when the principal symptom of the fatal illness has been diarrhœa. And from the point of view of the separation of the deaths from zymotic affections from those attributable to non-zymotic affections, the matter is a highly important one.

The conclusion, therefore, of the Diarrhœa Nomenclature Committee of the Royal College of Physicians, together with the above-named paper and reports, are deserving of the widest publicity amongst the different sections of the medical profession.—J. G. G.

The Perchloride Treatment in Plague. By Major Thomson, I.M.S. (*The Indian Medical Gazette*, November, 1890).—The author gives an analysis of the results obtained in two hospitals. The statistics were compiled independently by subordinate hospital assistants, who were not made aware of the object of the inquiry. No cases of doubtful diagnosis were included; cases of malignant primary pneumonic plague, and those admitted moribund, were likewise eliminated.

Both hospitals began to receive patients simultaneously, and practically from the same sources. The author states that he noticed some very marked effects following large doses in comatose cases, and by hypodermic injection below the first affected bubo, but that in other instances which apparently promised quite as good results, although pushed, cure was not effected.

Salivation was never seen, although when the same solution of mercury was administered to suspected but non-plague patients, the physiological action of that drug was obtained.

The average mortality in bubonic cases treated in this way was about 75·42 per cent of admissions, while under the expectant mode it was 78·16 per cent of admissions, showing a balance of between 2 and 3 per cent of recoveries in favour of the former method; and this, the author considers, is fairly satisfactory in a disease so fatal. Those who refused hospital treatment gave only 11 per cent of recoveries, and of those treated out of hospital 20 per cent died, while of all the cases treated in hospital, including primary plague pneumonia, non-bubonic, and fulminant, 22 per cent recovered. In consideration of these facts, the author advocates a more extensive trial of this method of treatment. He does not wish it to supersede rational therapeutic measures, but rather to be supplementary to them.—J. G. G.

MATERIA MEDICA AND THERAPEUTICS.

By R. BARCLAY NESS, M.A., M.B., C.M.

Treatment of Bronchial Asthma by Suprarenal Extract.—Solis Cohen (*Jour. Amer. Med. Assoc.*, 12th May, 1900) has met with success in the treatment of bronchial asthma by suprarenal extract. By bronchial asthma he means dyspnœa primary in the bronchi, and not the dyspnœa secondary to heart or lung disease; and even in true bronchial asthma he limits its use to cases accompanied by other manifestations of vasomotor ataxy of the relaxing variety (to use his own terms). Under this head he includes, among others, patients who are subject to urticaria or in whom factitious urticaria can be readily induced, those who are vascularly sensitive to slight changes in weather, those whose cardio-vascular balance is easily disturbed by emotion or digestive disorder, some hay-fever subjects, persons subject to congestive migraine, and those who show signs of functional renal disorder. Asthma in such people he believes to be due to a condition of swelling of the bronchial mucosa allied to urticaria or angioneurotic œdema, and the idea of treatment by suprarenal extract is to improve vascular tone. An illustrative case of constant dyspnœa, with paroxysmal exacerbations at night, relieved by copious thin, watery expectorations, is quoted. The patient, a young woman of 22, suffered in addition from paroxysmal attacks of palpitation and of excessive sweating; factitious urticaria could be readily produced, and albuminuria was present intermittently. After unsuccessful trial of many drugs, suprarenal extract was given, when a steady, striking improvement shortly became manifest, the sweating, expectoration, and dyspnœa at length disappearing.

Solis Cohen has had experience of some twelve similar cases, all successfully treated. Starting with a small dose, *e.g.*, 1 grain every two hours, or 5 grains once or twice a day, the amount is increased according to the tolerance of the individual, which varies as widely as from 3 to 90 grains daily of the dried gland. In some cases he notes profuse diarrhœa resulted, possibly from the animal substances retained in the preparation. It is to be noted that its use is entirely restricted to those asthmatics who show the signs of vasomotor disturbance detailed above. It is without effect in purely spasmodic cases, *i.e.*, cases due to bronchial spasm; in those which are due to want of vasomotor tone, Solis Cohen claims that its prolonged administration acts as a preventive.—(J. J. Perkins, M.B., *The Practitioner*, October, 1900, vol. lxv, No. 4, p. 449.)

Books, Pamphlets, &c., Received.

The Extra Pharmacopœia, by W. Martindale, F.L.S., F.C.S., and W. W. Westcott, M.B.Lond. Tenth Edition. London: H. K. Lewis. 1901. (10s. 6d. net.)

Text-book of Medicine, edited by George Alexander Gibson, M.D., D.Sc., F.R.C.P.Ed. Two Vols. Edinburgh and London: Young J. Pentland. 1901.

The Law relating to Poor Law Medical Service and Vaccination, by M. Greenwood, M.D., LL.B. London: Baillière, Tindall & Cox. 1901.

Science and Medieval Thought: The Harveian Oration, 1901, by T. Clifford Allbutt, M.A., M.D. London: C. J. Clay & Sons. 1901. (2s. 6d.)

Bath Waters: A Rational Account of their Nature and Use, with Special Reference to Gout, Rheumatism, and Rheumatoid Arthritis, by Preston King, M.D.Cantab. Bristol: J. W. Arrowsmith.

Cerebral Science, Studies in Anatomical Psychology: A Book for Artists, Physicians, and Teachers, by Wallace Wood, M.D. London: Baillière, Tindall & Cox. 1901. (3s. 6d.)

Eczema, with an Analysis of Eight Thousand Cases of the Disease, by L. Duncan Bulkley, A.M., M.D. Third Edition, Entirely Rewritten. New York and London: G. P. Putnam & Sons. 1901.

Modern Cremation: Its History and Practice to the Present Date, by Sir H. Thompson, Bart., F.R.C.S. Fourth Edition, Revised and Enlarged. London: Smith, Elder & Co. 1901. (2s.)

Aphorisms, Definitions, Reflections, and Paradoxes—Medical, Surgical, and Dietetic, by A. Rabagliati, M.A., M.D., F.R.C.S.Ed. London: Baillière, Tindall & Cox. 1901.

Dental Surgery, including Special Anatomy and Pathology: A Manual for Students and Practitioners, by Henry Sewill, M.R.C.S., L.D.S. Eng. Fourth Edition, edited by W. J. England, L.D.S.Eng., and J. Sefton Sewill, L.R.C.P. London: Baillière, Tindall & Cox. 1901. (10s. 6d.)

Clinical Lectures on Stricture of the Urethra and Enlargement of the Prostate, by P. J. Freyer, M.A., M.D., M.Ch. London: Baillière, Tindall and Cox. 1901.

Principles of Surgery, by N. Senn, M.D., Ph.D., LL.D. Third Edition, thoroughly Revised. With 230 Wood Engravings, Half-tones, and Coloured Illustrations. Philadelphia and Chicago: F. A. Davis Company. 1901.

Outlines of the Diseases of Women, by John Phillips, M.A., M.D. Cantab., F.R.C.P. With 120 Illustrations and Two Appendices. Third Edition, Revised and Enlarged. London: Charles Griffin & Co., Limited. 1901.

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FIVE WEEKS ENDING 25TH MAY, 1901.

	Week ending				
	April 27.	May 4.	May 11.	May 18.	May 25.
Mean temperature,	52·3°	52·0°	50·5°	52·8°	55·7°
Mean range of temperature between day and night,	23·8°	23·2°	20·1°	27·0°	35·5°
Number of days on which rain fell,	1	1	6	0	1
Amount of rainfall, ins.	0·03	0·06	0·58	0·0	0·01
Deaths registered,	343	290	279	307	294
Death-rates,	23·7	20·0	19·2	21·2	20·0
Zymotic death-rates,	4·1	2·4	2·7	3·2	3·3
Pulmonary death-rates,	7·6	6·2	5·4	6·1	5·4
DEATHS—					
Under 1 year,	78	50	55	73	62
60 years and upwards,	61	57	49	49	40
DEATHS FROM—					
Small-pox,	3	3	1	3	1
Measles,	7	6	5	9	10
Scarlet fever,	4	6	2	1	1
Diphtheria,	2	...	1	4	1
Whooping-cough,	34	16	21	18	19
Fever,	3	...	...	2	...
Diarrhœa,	7	4	9	10	17
Croup and laryngitis,	1	1	...	...	...
Bronchitis, pneumonia, and pleurisy,	85	50	55	53	45
CASES REPORTED—					
Small-pox,	18	8	9	8	8
Diphtheria and membranous croup,	3	9	10	11	7
Erysipelas,	22	27	21	23	29
Scarlet fever,	55	64	75	48	63
Typhus fever,	1	...	1	1	4
Enteric fever,	13	11	8	15	9
Continued fever,	...	...	...	...	1
Puerperal fever,	...	1	1	...	2
Measles,*	131	98	119	175	187

* Measles is not notifiable.

SANITARY DEPARTMENT,
GLASGOW, *29th May, 1901.*

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